Summer — 2004
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Protect

New Zealand **Biosecurity** Institute

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Protect

Summer 2004

Magazine of the New Zealand Biosecurity Institute

Contents

Editor's Note

Christmas is upon us once again, and the December issue of *Protect* is a bumper size to see you through the festive season.

The recent Biosecurity Summit held in Auckland takes up a fair bit of space, with a summary of the presentations from the key speakers, and a timely message from a local government CEO to MAF regarding the implementation of the Biosecurity Strategy.

There is also an update on the national aquatic pest awareness framework that those involved in this area of biosecurity have been working on, together with reports on both a major aquatic weed conference in Florida and an Australian weeds gathering attended by a number of our members involved in invasive plant species.

The second of the workshop summaries from NETS2004, looking at public support for incursion responses, is covered and there is also a request from the Invasive Species Specialist Group for help in populating its database.

This issue also sees the launch of Border Bits, a summary of recent interceptions of biosecurity risk materials by MAF Quarantine Services. The staff at MAFQS do a fantastic job, and they should be applauded for the amount of weird and wonderful contraband they confiscate at our borders.

So, happy reading, and have a safe and relaxing Christmas and New Year. Catch up with you all in 2005.

Carolyn Lewis

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New Zealand Biosecurity Institute

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

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News from the Executive

Biosecurity New Zealand

A new lead agency for biosecurity in New Zealand, "Biosecurity New Zealand", came into being on November 1 and was officially launched at the Biosecurity Summit later that month.

I'm sure we will all be watching with interest the performance of this new organisation and how well they can implement the Biosecurity Strategy. It certainly came across at the Summit that things appear to be heading in the right direction. At the Summit Carolyn Lewis, Mike Taylor and I spoke to Barry O'Neill (Assistant Director-General or head of Biosecurity New Zealand) about the NZBI. As a result we have been invited to speak with senior Biosecurity New Zealand managers in February 2005 to explore ways the two organisations can work more closely together. Very promising indeed! For more information about the Biosecurity Summit see the report later in this issue.

Biosecurity Awareness Framework

Two years ago Protect New Zealand convened a workshop of biosecurity and communications professionals to develop a cross-agency framework to maximise co-operation, co-ordination and collaboration between biosecurity agencies. A follow-up workshop is being organised in January 2005 and this time we have managed to wangle an invitation. The meeting will endeavour to put together a roadmap of the different activities and priorities being undertaken by agencies involved in biosecurity to minimise any overlap or working at cross purposes. Vice-President Carolyn Lewis will be ably representing the NZBI at this meeting. Carolyn is currently pulling together a media and communications plan for the Institute so this meeting will be very timely.

MAF Questionnaire on Strategic Issues in Pest Management

In October the NZBI was asked to make a submission on strategic issues for pest management in New Zealand with the aim of assisting MAF's Biosecurity Strategic Unit to develop a better understanding of all the issues and develop priorities for action. A summary of all the responses received was collated in November and has been placed on the NZBI website in the Members' Only section, along with the NZBI submission. Further comment by December 17 is being called for, so if you are interested in having an input into the NZBI's submission on this, please contact Carolyn Lewis at stevebluett@wave.co.nz

NETS2005

Planning is well underway for NETS2005 which will be held from the 27-29th of July 2005 in Christchurch. The theme is "In your neighbourhood – Biosecurity begins at home and influences regional, national and global outcomes. Pests have no boundaries and we all have a role to play." We are keen to have plenty of 'coal-face' type presentations, preferably at least one from each branch. If you would like to give a paper please let the organising committee know as soon as possible (contact Helen Braithwaite: hbraithwaite@doc.govt.nz) Note that it is not essential that all presentations relate to the conference theme.

Subs

Come January 2005 and subs time will be upon us again. We do really appreciate those who pay promptly, and don't forget there is a $10 discount for those who pay by the end of March. However, every year there are some members whom we have to chase for subs which becomes very demoralising. Be aware that it is no-longer possible to wait until NETS and pay a non-member fee to become a trial member, thus avoiding paying a sub. In future, trial membership will only be offered to people who have never been full or trial members before.

I think it is also timely to remind members about what they get for their sub. It is not uncommon to have to pay several hundred dollars to belong to a professional society so $30 for NZBI membership represents extremely good value. Here are some of the benefits of membership:

- Being able to participate in activities to increase knowledge and networks at a branch and national level
- A reduced registration fee at our annual conference
- Being part of a body that is able to lobby on behalf of members for a huge range range of things (for example, qualifications, legislation and policy changes)
- Being part of a body that works to raise awareness of biosecurity issues
- Access to travel and study awards — note that members are currently not taking full advantage of the travel award
- Access to four excellent issues of Protect each year

New members

We would like to warmly welcome the following new members:

Karen Armstrong – Bio-Protection Centre, Lincoln University
Matthew Bloxham – Environment Bay of Plenty
Jeremy Kerr – Feral Research and Development
Michael Langford – Taranaki District Health Board
Tim Newton – Waikato District Health Board
Darren Ward –University of Auckland

News from the Executive Continued

• Access to a website set up for the benefit of members
Being able to communicate with others involved in biosecurity nationwide

So go on, make us happy — put that cheque in the mail!

Lynley Hayes ☺

Get well soon

Ian Popay has recently undergone shoulder reconstruction surgery. We would like to wish him all the best during the long months of recuperation that lie ahead.

National Pest Plant Accord

Technical Working Group nominations

The National Pest Plant Accord (the Accord) is a co-operative agreement between regional councils and government departments with biosecurity responsibilities. Under the Accord, regional councils undertake surveillance and enforcement to prevent the commercial sale and/or distribution of an agreed list of pest plants.

Biosecurity New Zealand has recently resumed work on the Accord (it had been deferred during development of the Biosecurity Strategy). One area of work is for a Technical Working Group to review the list of pest plants and assess proposals for new pest plants to be added to the Accord.

The Technical Working Group will be responsible for providing advice and recommendations to the Accord parties on amending and updating the Accord list. In particular, the Technical Working Group will:

- **Consider whether pest plants should be determined as unwanted organisms and entered on the Accord list;**
- **Consider whether pest plants that are determined as unwanted organisms independently of the Accord should be entered on the Accord list;**
- **Review and develop advice on proposals from other sources for plants to be added to or removed from the Accord list.**

The Technical Working Group will be made up of between 6 and 10 people with a mix of technical and policy representatives of councils, biosecurity departments, and other interested groups, such as environmental or industry groups. The members will not represent their respective employer; their role will be to bring technical expertise to the group.

It is hoped that a technical expert will be found for each of following four areas:

- **Quantitative botany/ecology**
- **Marine and freshwater**
- **Agricultural plant/forestry**
- **Environmental pest management**

It is envisaged that the first meeting of the group will be in February 2005.

Nominations are now invited for the Technical Working Group. Each nomination should be accompanied by a brief resume outlining the skills that the nominee would bring to the Technical Working Group.

Please submit nominations by 17 December 2004 to:

Suzanne Main
Biosecurity New Zealand
PO Box 2526
WELLINGTON
suzanne.main@maf.govt.nz
Ph. 04 498 9930

The Accord can be accessed on the MAF website www.maf.govt.nz/biosecurity/pests-diseases/plants/Accord.htm

News from the Branches

Northland/Auckland

Looking out from edge of Lake Karaka to the grey teal nesting boxes with Manchurian wild rice growing around the lake edge.

The Northland/Auckland branch meeting was held at NZ Biosecure's offices at Parakai, Auckland, on the October 20, 2004.

NZ Biosecure staff outlined the southern salt marsh mosquito Kaipara Eradication Programme (KEP), involving the treatment of around 2700ha of coastline in the Kaipara area. The programme is running well with the last adult caught in September 2003 and last larva caught in February 2004; if no more mosquitoes are caught for two more breeding cycles the area will be classed as free of the pest by World Health Organisation standards.

Clyde Edmiston, Auckland Regional Council (ARC), spoke on the South Kaipara Tb vector control programme. Control of possible vectors of Tb with the aim of eventually declaring the area Tb free has been carried out in South Kaipara since infected cattle and possums were identified in the mid-1980s. The ARC co-ordinates vector control of possums and ferrets and undertakes wild animal surveys of ferrets, deer and pigs. Very low numbers of possums are now being caught in the 42,000ha Tb vector control area: 93 in 2004/05 compared to 13,362 in 1997/98. The residual trap catch levels were 0.05% for the 2004/05 season compared to 2.4% in 1997/98. The last Tb infected possum caught was in 1986, with a steady decline in herds infected with Tb since 1990/91. In 1990/91, 17 herds were infected with Tb and in 2002/03 only one herd was infected. All ferrets caught in the control area have been autopsied and found to be Tb free. It is hoped the South Kaipara area will eventually be declared Tb free if no more Tb is found in cattle or vector populations.

The field trip was to Lake Kereta and Lake Karaka, which are two of the largest dune lakes on the South Kaipara peninsula. The lakes are home to a range of aquatic pests such as Manchurian wild rice, hornwort, water primrose, bladderwort, koi carp and gambusia (mosquito fish). The lakes also provide habitat to a large variety of bird species including New Zealand dabchick, pied shag, black swan, paradise shelduck, mallard, grey duck, New Zealand shoveller and grey teal.

— Greg Hoskins

Branch news Continued

Central North Island

On October 19, the Central North Island Branch headed down to Pukeatua, 50 minutes out of Hamilton, for a meeting and a field trip. The turnout for the meeting was one of our best yet, with 26 members and guests attending.

Once business was out of the way, we had a presentation from Carolyn Lewis about the Tasmanian Weed Hygiene Accreditation programme, a possible model to prevent the spread of weeds and nematodes on machinery and contractors equipment; a talk about forest health monitoring from Gordon Hosking, looking at how to piggy-back overall forest health surveys on existing monitoring efforts at minimal extra cost; and Jillana Robertson, of the Maungatautari Ecological Island Trust, spoke about this amazing initiative to restore this area of bush and reintroduce native bird and bat species.

After a lunch sponsored by Environment Waikato, Jillana took us into the southern enclosure of the Maungatautari project, which at the time of our visit was closed to the public for animal pest movement monitoring after an extensive eradication programme. The walk was kept at a brisk pace, and track workers told us that Ian Popay was the first visitor in a wheelchair they have had on the "wheelchair assisted" track. Once fully developed, this area will allow people with a wide range of abilities and fitness to experience a pest-free piece of native bush.

Central North Island Branch members and guests being shown around Maungatautari Ecological Island by Jillana Robertson.

The next branch meeting and field trip is likely to be in February at Opotiki, spread over two days.

— Esther Van Den Bosch

Member Profile: Greg Hoskins

Biosecurity Officer, Auckland Regional Council
Executive Member, Northland/Auckland Branch

My first experience of dealing with pests was when I was a schoolboy at Wilton School in Wellington. After school we would go down to the Otari bush reserve and catch possums, skin them and cure them with saltpetre and alum.

My grandfather had a stone-fruit orchard in Taradale and he also had a possum problem with fruit being damaged. My interest in horticulture started while working for my grandfather during school holidays, thinning fruit, weeding, harvesting, grading and packing fruit, and pest control.

We moved to Auckland in the mid-1960s and I attended Rangitoto College. Living close to the orchards at Albany was great as I was able to work school holidays and weekends on a variety of orchards in Bush Road and Rosedale Road, biking down from the East Coast Bays along Rosedale Road which was gravel in those days.

Greg Hoskins

After leaving college I completed a Bachelor of Horticultural Science and a Diploma in Horticulture at Massey University, majoring in temperate fruit and vegetable production. My first full-time job was as an agronomist with Elanco Products doing field trials in pip fruit, grapes, cereals and vegetables with a range of herbicides and fungicides.

Soon after getting married to Kathy in 1976 we moved to Papua New Guinea for four years, where I set up and managed a market garden near Port Moresby supplying fresh vegetables and fruit to the expatriate population.

After two years I also took over and managed the other plantation activities such as the trade store, copra, rubber, cocoa and cattle enterprises. Insect pests were always a big problem as they would breed so quickly and build up resistance to the insecticides used. The Hawke moth caterpillar would attack the sweet potato foliage and leave just the stalks after a few days if nothing was done to stop them.

Managing the 60 indigenous staff was always a challenge and every second Thursday afternoon they would get paid outside the plantation office. The men would be accompanied by their wives and children, and as soon as they were paid the women would take the money and dish some out to their husbands and children for purchasing beer, tobacco, tinned fish, rice and soft drink.

We returned to Auckland in 1981 and purchased a 5ha block in Swanson comprising some native bush and pasture. We planted a small vineyard and macadamia nut orchard on the property and still live there today. Our three now-grown children all went to Swanson Primary School where Kathy currently teaches.

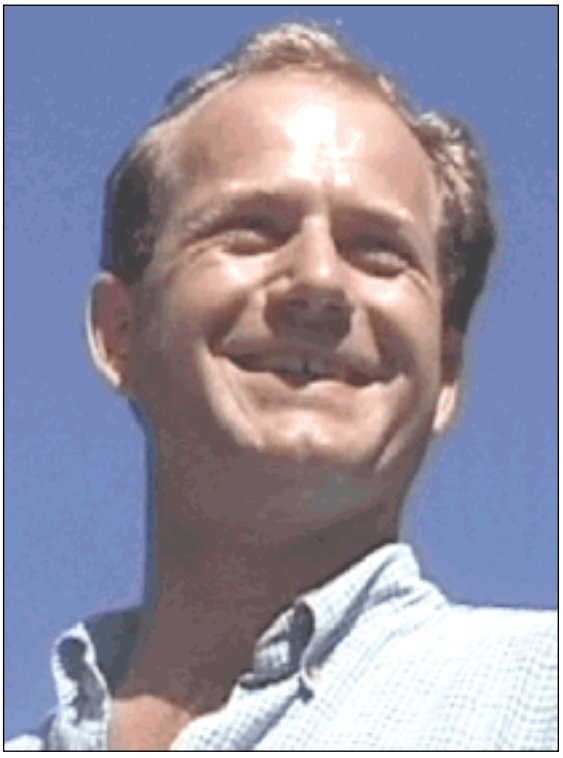
Since Papua New Guinea I have worked as a head gardener, technical adviser for Fruitfed, horticultural consultant for MAF and contractor undertaking field trial work for pesticide companies.

In 1997, I started my biosecurity career with the Auckland Regional Council Biosecurity Team, working in the South West Rodney area. This is a great area to work in with a variety of land uses ranging from intensive greenhouse cropping in the Kumeu area, to large beef, deer and sheep farms at South Head. Special interests include working with Landcare groups such as those at South Kaipara and Bethells Beach, biocontrol of weeds, aquatic pest plant control, animal pest control and integrated pest management.

The NZ Biosecurity Institute has been a great organisation for meeting like-minded people with a passion for controlling pests. I have attended all conferences except one since 1998 and have enjoyed being involved in the executive and at the local branch level helping to organise meetings and field trips. Thanks to all those members who have helped me over the last eight years, especially with biocontrol queries and answering my requests for information and photos.

Greg Hoskins

Member Profile: Mike Taylor



My work in biosecurity began when I joined the Cawthron Institute in Nelson as a research scientist in 1996. My first job was identifying zooplankton samples from ship's ballast water and from that early beginning I have gained extensive and ongoing research experience in marine biosecurity and a broad knowledge of the marine farming industry and the biosecurity threats to which it is exposed.

I graduated PhD from the University of Auckland in 1998 and was appointed Cawthron's biosecurity group manager in 1999. In this role I also assumed leadership of the Institute's FRST-funded marine invaders programme, my particular interests being biosecurity risk management and assessment.

My group and I have forged close links with a wide range of industry groups (port companies, shipping and aquaculture) and other stakeholders concerned with the marine environment.

As well as ballast water risk assessment, I have been involved in the assessment of hull fouling risks, evaluated the effectiveness of ballast water exchange via international shipping, and advised the aquaculture industry on biosecurity risks associated with transferring spat to different parts of the country. I also co-supervise three marine biosecurity PhD students and am acting chairman of the Northern South Island branch of the New Zealand Biosecurity Institute.

Mike Taylor

What is Weedbusters to you?

By Amber Bill
National Weedbusters Co-ordinator

The sun is shining, the birds are singing, and the murmur of weedbusters is in the air… so I asked a few of the people who are leading this Weedbusters' action what the programme is all about from their point of view.

What does Weedbusters mean to you?

According to Keith Crothers (Environment Southland) and Ben Minehan (Marlborough District Council), Weedbusters is a tool to educate people to do their bit and protect the environment from invasive weeds. Keith sees it as, "a very valuable and meaningful tool to get the message out to children." Ben adds that it is a concept that encourages people to do their bit and not spread weeds any further.

Wendy Baker (Environment Bay of Plenty) and Elaine Iddon (Horizons Regional Council) say that Weedbusters provides national consistency. According to Wendy, "it's about joining forces — to bring all the people in the 'weed scene' together… to promote the weed awareness message more efficiently, and more consistently hopefully, to people throughout New Zealand." Plus, says Elaine, "it provides recognition at a national level to the volunteer groups who are out there doing the hard work."

Students at Brookfield Primary School get a lesson on Weedbusting from Wendy Baker. Photo by Hayden Kerr.

What have been the main drivers for getting Weedbusters happening in your region?

Reading between the lines, this interviewer sees that one of the main drivers for Weedbusters is committed, enthusiastic, energetic individuals.

For Environment Bay of Plenty, Wendy says that Weedbusters is the icing on the cake. "Weed awareness has always been strongly promoted in the Bay of Plenty region and Weedbusters is another way to make weeds an interesting and 'fun' subject."

Elaine and Ben both say that launching Weedbusters through an event or campaign has worked for them. "[Pest] plant officers are incorporating Weedbusters into local events or getting volunteer groups involved," says Elaine. And according to Ben, "council and the Department of Conservation [are] working together to get the message about the weed problem out to the public."

What do you see as the risks for Weedbusters and how would you suggest avoiding them?

The most problematic areas that could put Weedbusters at risk seem to lie in keeping everyone in the loop, making it clear that Weedbusters is a partnership programme, maintaining funding, and keeping motivation levels up.

Wendy notes "there needs to be clear acknowledgment of other organisations that promote the Weedbusters initiative." And Keith warns; "The biggest risk I see is the withdrawal of government funding. I suggest that this could be off-set by getting sponsorship from private enterprise."

If money and time were no issue, what would you like to see happen with Weedbusters?

The cry is virtually unanimous: "Full-time Weedbusters Co-ordinators!" Television advertising and programmes are also high on the wish-list.

What is Weedbusters to you? Continued

What most excites you about Weedbusters?

Enthusiasm and fun win the day. Weedbusters, says Elaine, is about having fun as it is "an informal way of getting the pest plant message to the public." Wendy says that Weedbusters "makes weeds fun and it grabs people." Keith reckons the highlights are "the enthusiasm of those involved in the programme. Oh yeah, and Woody!!!"

Ben and Elaine are also excited by organisations working together. "The Weedbusters concept has joined a number of different armies to fight as one," says Ben. "There has got to be strength in unity."

Many thanks to Keith Crothers from Environment Southland, Wendy Baker from Environment Bay of Plenty, Elaine Iddon from Horizons Regional Council, and Ben Minehan from Marlborough District Council for their time and honesty in answering these questions.

To join in with Weedbusters, contact the National Co-ordinator, Amber Bill abill@doc.govt.nz

Ben Minehan with Woody Weed and friends at the recent Hunters Marlborough Garden Fete. Photo: Marlborough District Council.

Meeting focuses on country-wide public awareness of aquatic pests

By Anne Brow
Aquatic Pest Awareness Officer
DOC Nelson/Marlborough Conservancy

On August 17, a national meeting was held in Wellington looking at aquatic pest awareness issues.

The meeting was designed to bring together different government agencies, industry groups and interest groups that are stakeholders in the aquatic pest issue.

The meeting comprised 35 representatives from groups including Department of Conservation, Land Information New Zealand, Ministry of the Environment, Ministry of Fisheries, Fish and Game, the "New Biosecurity Agency" (the restructuring MAF), National Institute of Water and Atmosphere, Weedbusters, Meridian Energy Ltd, TrustPower Ltd, Mighty River Power Ltd, Contact Energy Ltd, Federation of New Zealand Aquatic Societies, Nursery and Growers Industry Association, Landscape Industry of New Zealand, New Zealand Federation of Coarse Anglers, New Zealand Eel Enhancement Company, Horizons Regional Council, Auckland Regional Council, Environment Bay of Plenty, Greater Wellington Regional Council, Environment Waikato, Environment Canterbury and Environment Southland. Representatives from the tourism industry, Landcare Research, the New Zealand Biosecurity Institute and private players were also made aware of the meeting and have asked to be kept in the loop regarding developments.

There was consensus at the meeting that there was value in working in a co-ordinated fashion on aquatic pest awareness. Given that many of the transfer methods for waterweeds are similar to those for pest fish, it was thought there was value in trying to "kill two birds with one stone" in the advocacy message.

The meeting was actively involved in formulating three symbols to tie together the aquatic pest transfer message which could be used on printed material, signage and in articles. These symbols are based on the concepts and social marketing research behind the "Stop Aquatic Hitchhikers" logo which has been developed by the US Fisheries and Wildlife Service and has been very successful in the USA (check out http://protectyourwaters.net/).

This summer, the symbols will begin to be incorporated into New Zealand's existing regional programmes, fact sheets, propeller flags and posters. It is hoped that a national platform will complement the great regional work that is already in place.

Meeting attendees committed to working together, looking at pooling available resources and pushing advocacy through their own networks.

The national group will meet again in February to continue momentum on this important issue. If you would like more details of the Wellington meeting, its outcomes, and the use of the symbols, contact Anne Brow on (03) 546 3171 or abrow@doc.govt.nz

Biosecurity Strategy — the first 12 months and beyond

Carolyn Lewis attended the recent Biosecurity Summit in Auckland as a New Zealand Biosecurity Institute representative and reporter for *Protect*. The following is a summary of presentations from the main speakers and the pest management stream of speakers; a full copy of all presentations given at the summit can be found at http://www.maf.govt.nz/biosecurity/biosecurity-summit/index.htm and a report on the marine options of the summit will be presented in the next issue of *Protect*.

More than 200 people from all parts of the biosecurity spectrum attended the second Biosecurity Summit, held in Auckland from 18-19 November 2004. The two themes for the summit were marine biosecurity and pest management, and it was also an opportunity for MAF to outline the work that that has been done over the past 12 months in implementing the Biosecurity Strategy.

Murray Sherwin, Director General of Ministry of Agriculture and Forestry, opened the Summit. Likening the Biosecurity Strategy to "a Picasso sketch rather than a blueprint", Murray gave what he described as a stocktake of the implementation of the strategy over the last 12 months, and outlined the challenges ahead.

Murray's main message was that the foundations for successful implementation of the Biosecurity Strategy were well on the way to being put into place. MAF has been undergoing significant structural change to support the integration of biosecurity responsibilities, including the establishment of Biosecurity New Zealand and the Biosecurity Strategic Unit (more on this below). MAF has also been laying a platform for cultural change, recognising the need to have confidence in and establish relationships with the diverse stakeholders involved in biosecurity management in New Zealand.

He also emphasised that, contrary to some community perceptions, MAF is not an advocate for farmers; it is an advocate for the national interest related to agriculture, horticulture, forestry and food sectors. MAF is committed to earning the confidence of all biosecurity stakeholders, and to integrated and inclusive decision-making; at the same time, it needs to be decisive, resolute and effective in the actions that it takes.

Murray emphasised that the focus this last year has been mainly internal as MAF put structures in place to implement the strategy, but that they were now in the position to start looking outward. Murray thanked other biosecurity agencies for the "breathing space" they had given MAF during the last 12 months to come to grips with the challenges it faced in changing both structure and culture to accommodate new responsibilities under the strategy. Murray concluded by stating that MAF's goal was demonstrable excellence in biosecurity.

Barry O'Neill of Biosecurity New Zealand and Associate Biosecurity Minister Marion Hobbs.

Murray was followed by **Marian Hobbs,** Associate Minister of Biosecurity. Marian's message was simple — biosecurity is everybody's business. She stated that the main challenge for those in biosecurity would be to mobilise four million pairs of eyes to assist management and incursion efforts. She also commented that while the biosecurity system needed to be inclusive, it needed to be balanced with the requirements to act quickly when required; six months consultation for new incursions was impractical. Marian also suggested that New Zealand owes a debt of gratitude to those communities that put up with spraying for a nationally significant pest.

Marian also pointed out that there had been a 50% baseline increase in biosecurity funding since 1999, but that biosecurity was an area where funding would never be enough; although there are "20,000 introduced plants in New Zealand, a money tree is not one of them."

Echoing Marian Hobbs' sentiments, and stating that "biosecurity will suck up every last dollar and come back for more", **Paul Stocks,** Director of the Biosecurity Strategic Unit, outlined the role of this newly formed agency in ensuring that a strategic approach to

Biosecurity Strategy – a year on Continued

biosecurity is taken to provide the best outcomes for the funding available.

Paul explained that the BSU is separate to Biosecurity New Zealand and other agencies, and is charged with taking "a whole of government and biosecurity" view. Its strength will be its ability to step back from day-to-day work to focus on strategic issues, and to act as a central agency for biosecurity. The BSU has 11 staff plus secondees from DOC and MOH. It will focus on design and delivery (what should the system deliver and what does it need to do that?) and performance and evaluation (how well is the system delivering?).

Over the past 12 months, the BSU has been developing a framework for describing why we have biosecurity; reviewing roles and responsibilities across the four biosecurity agencies (Conservation, Health, Agriculture and Forestry, and Fisheries); looking at governance and servicing stakeholders forums such as the chief executives' forum, central/regional forum, and the Ministerial advisory committee; taking initial steps in identifying key issues and opportunities in pest management; and co-ordinating the budget processes for 2004 Budget and 2005 Budget (currently). One of the BSU's key tasks is to prepare for the budget cycle rather fitting this work around day-to-day activities, and ensuring strategic planning happens before Budget bids are due. Part of this role will be co-ordinating with other agencies.

Paul also reiterated that biosecurity is not an end in itself but a means to an end. With that in mind, the BSU has to consider both side-by-side outcomes (outcomes that biosecurity contributes to, such as health, increased trade, protection of environment and so on) and end-to-end outcomes (outcomes of the biosecurity system itself, such as preventing new pests establishing; managing those already here; and ensuring the public can participate in biosecurity issues).

Paul summed up the BSU as having a strategic focus going forward, a whole of biosecurity approach, a role as champions of the strategy, and the ability to learn, adapt and improve.

George Ria, Director of Maori Strategy, Ministry of Agriculture and Forestry, outlined his unit's role in supporting the development of the capacity of MAF business groups to provide advice on Maori and Treaty issues, and monitoring the quality of MAF outputs for Maori. MAF has three key priorities in this area: increasing its responsiveness by developing partnership relationships; improving Maori participation in the biosecurity process; and increasing knowledge about Maori and Treaty issues across MAF. George reminded the audience that "everybody has a world view and that has to be respected."

Lesley Middleton, General Manager, Science and Technology, Ministry of Research, Science and Technology (MRST) looked at the importance of good science for decision-making in biosecurity. Lesley emphasised that research ranges from research for research's sake, to research specifically undertaken to allow informed management decisions, and that good science needs a balance of influences to ensure that it is effective and useful. Tony Robinson, also of MRST, said that one of their main challenges was encouraging managers to think five to 10 years ahead — research has a considerable lag period before results are useful, so forward thinking is essential.

Noting that biosecurity has never been more important, **Barry O'Neill,** Assistant Director General of the newly launched Biosecurity New Zealand. Barry pointed out that past successes in dealing with incursions and managing pests meant that the New Zealand public had high expectations. The Biosecurity Strategy also aimed to take biosecurity to a new higher level; the successful implementation of this strategy, building on what was already being done well and establishing and maintaining stakeholder support, required a major paradigm shift — "not just a new chapter, but a new book".

This shift in thinking was needed because of the increasing pressure on the biosecurity system through the greater volume of trade and travellers from increasingly varied origins, and greater public and political expectations, especially around biodiversity, marine and health. It is also needed because the previous system was prone to inconsistency and fragmentation in the areas of risk assessments and prioritisation, information sharing and analysis, and the system just wasn't learning from experiences. The existing structure was also based on animals, plants, forests, borders and would not succeed if further silos of marine, conservation and health were added. At the same time the culture also needed to change, focusing on performance and outcomes.

Biosecurity New Zealand was set up to meet this challenge. To signal the new structure, and to send a strong message to both domestic and international stakeholders about the wide-reaching changes in the way that New Zealand manages biosecurity, a new brand was needed. This new brand was developed on sound market research to reflect the expanded mandate and responsibilities of MAF, which is now accountable for the overall management of biosecurity, has a focus on a "whole-of-biosecurity" approach, and was committed to protecting the full range of environmental, social and economic values. The brand also showed the links to MAF but suggested that the responsibility for biosecurity extends much wider. All communications to the public would now come under the "Biosecurity New Zealand" brand, with Protect New Zealand being phased out.

The launch of Biosecurity New Zealand also provided a defined start date for both staff and stakeholders, indicating new structures and systems, new thinking and ways of operating, and a new culture and behaviours.

Biosecurity New Zealand's priorities are to establish this new organisation and new culture, improve

Biosecurity Strategy – a year on Continued

strategic and business management; review capability; implement an integrated risk management framework; strengthen relationships; develop a generic incursion response capability; develop a biosecurity research strategy; provide pest management leadership (and progress); act as an interface between MAF and other agencies; and undertake a funding review.

There has been a major focus on getting right people in right roles, and there is still at least 12 months of work needed to fully review and implement new and appropriate processes and systems. The change in culture has begun but would not happen overnight. Expectations definitely exceeded reality, and applying greater consistency in risk management and robust

concluded, the honeymoo period is over and we need to start making a difference, together.

Douglas Birnie, Director of Policy and Business Development, Biosecurity New Zealand, spoke about the funding that would be needed for biosecurity work. On the issue of user pays and beneficiaries vs exacerbators, Douglas pointed out that people or groups of people could only be charged for biosecurity work if ways in which that group could change behaviours to reduce the charges could be identified. The more diffuse the beneficiaries, the more likely regional councils or government would end up paying.

Stephen Goldson, Science Strategist for AgResearch had some interesting things to say about incursion responses and public attitudes to pest control methods. His starting point was that we should try to eradicate first; if we can't eradicate, we need to contain; and if we can't contain, manage.

He pointed out that pest management usually involved killing things that moved around, that were small, hard to find and reproduced easily, but that while doing this, you were not allowed to affect other organisms at all — all together a hard call. He also pointed out that you could eradicate anything as long as money was no object, but the easy approaches, involving toxins and often aerial applications, caused outrage in some sectors of the community.

The challenge ahead of scientists, then, was to temper research with politics. They must find methods that were acceptable to the community, not just methods that were feasible, and this would involve some elements of compromise. Thus, recent eradications were a heroic effort, and reflect MAF tenacity (what Andrew Caseley referred to as "fortitude"; see following article), funding, technical advice and public understanding. However, very few pests were found quickly enough to eradicate.

Stephen argued that whether the physical symptoms of aerial spraying were imagined or otherwise was not the point; whether the nausea experienced was caused by the spray itself or by the stress about spraying was irrelevant — perception was reality. The bottom line was that we must engage in researching methods that reduced public anxiety: minimum aerial application; more targeting of pests; and methods that were not only safe but were perceived to be safe — less invasive methods such as integrated pest management, "green" chemicals, targeted sprays. Unfortunately, the cost of data collection and meeting HSNO and ERMA requirements for new technologies may mean we were stuck with "dirty" herbicides developed for wide use and broad spectrum, rather than narrow spectrum methods that are needed in New Zealand.

The impact of incursion response on local government was covered by **Penny Hulse,** Waitakere Eco-City Councillor who looked at the public the recent aerial spraying both. Penny explained that her council has a strong emphasis on people, with the mayor often referring to the council's role as "rubbish, rates and roads on Monday, the rest of the week on people". It was a concern for the council, then, when MAF made many decisions about the spraying regime behind closed doors and with little communication. Anger grew in the area, when basically all the people wanted to know was: who made the decisions, how did they decide, who could they trust, who was listening to us, and how could we help?

Penny commended MAF on its post-programme debriefing with the council, and said the lessons learnt were to keep in contact with the local council; bring in key community leaders to help; supply quality info — don't talk down to audiences; utilise existing community networks; be responsive and honest; and make the community your partners.

Now, if you remember your nursery rhymes you'll appreciate the angle taken by **Tim Rochford,** lecturer in Maori health at the Wellington School of Medicine, in his talk "There was an old lady who swallowed a fly".

Tim outlined the escalation of behaviour that has led to our currently pest management situation in New Zealand, from the science of agriculture in the 1800s, to a stage where we have had to introduce increasingly dangerous poisons to the land to control the pests that have resulted. Tim urged a change in thinking that would see us valuing balance over progress and seeing a toxin-free future as an investment rather than a cost. His main message was "in a toxic world, a place without toxins will be a valuable commodity as we move into the next century."

Tim was also the facilitator in the workshop I took part in where we looked at addressing societal and community issues with pest management. The issue

Biosecurity Strategy – a year on Continued

of trust was raised and it was pointed out that, rightly or wrongly, the current structure for research funding means that scientists are no longer seen by the public as independent and trustworthy. This same lack of trust extends to other agencies involved in biosecurity, and to counterbalance this situation relationships and networks have to be put in place before crises occur. The community also has to have an understanding before an event, of how the government will react to a new incursion so there is no doubt in their minds.

Tim also raised the issue that society has changed so much now that the trust that used to exist within communities that the government would look after them, and the subsequent willingness of these communities to make sacrifices for the greater good, has been lost in reforms that now require society to be more individualistic and focused on looking after "number one".

Murray Sherwin had the job of summing up the summit on the final day and looking at the challenges ahead. He emphasised that MAF was accountable, and intended to lead and deliver, that it needed to reach out and engage other organisations working in the field of biosecurity, and that biosecurity was everybody's business. He also emphasised that there have been a lot of successes in the last year and that these needed to be acknowledged and celebrated.

Challenges in pest management

Andrew Caseley, Chief Executive of the Hawke's Bay Regional Council, right, addressed the Biosecurity Summit from the perspective of a local government organisation facing biosecurity challenges on its own patch. He also provided a four-part wish list for biosecurity implementation in New Zealand. This is an edited version of the presentation he gave.

Biosecurity is not a full-time role for me, as regional councils have a wide range of functions and responsibilities. However, I have a strong personal interest in biosecurity issues and, of course, a very strong interest representing a regional council in a region that is still highly reliant on the success of its rural sector. I can assure you I would be significantly traumatised by the possibility of some new pest devastating not only my 4.5ha of grapes, but also the 70-plus hectares of grapes I look out on from my kitchen window, not to mention the impact of foot and mouth disease, or the introduction of pitch pine canker that would either devastate, or make even more dubious, what is already a marginal investment in radiata pine. I am, however, hopeful that another wave of RHD will sweep through the area in the autumn to bring rabbit populations back under control, and that sooner than later the local rook population will find more appetising pickings elsewhere!

When thinking about the current and future challenges in pest management, I have struggled to differentiate between current challenges and future challenges. Therefore, I have conveniently concluded that all the challenges I am going to pose are both current and future — so that one's dealt with!

I must admit that while preparing my presentation I was conscious of the launch of both the Biosecurity Strategic Unit and Biosecurity New Zealand, and particularly the outline of what they will be doing. From the outlines presented, though, I am feeling confident of the directions being taken and the issues being addressed. However, in case Paul (Stocks) and Barry (O'Neill) and their teams have yet to consider some or all of the pest management issues I am concerned about, and which do require consideration by both the Biosecurity Strategic Unit and Biosecurity New Zealand and others involved in biosecurity in New Zealand, I have identified various challenges under the "Four F's" of Flexibility, Focus, Fortitude and Funding.

Flexibility

In respect to biosecurity and pest management as a whole, flexibility is a critical consideration. I don't need to remind any of you about the frightening speed at which pest incursions initially establish and then spread. Early intervention, along with the required flexibility to respond and react, is critical if we are to keep some of the more threatening pests we face at bay. Early detection is a key component, and I would strongly encourage Government to maintain its investment in surveillance for any new incursions around susceptible entry points — ports and airports in particular — and to then react and respond at the earliest opportunity to eliminate any new incursions.

From my distant observation, the recent flexibility that has been established to deal with incursions that may be able to be eradicated appears pretty good. I hope and believe that lessons have been learnt from some of the large-scale eradication programmes that have been undertaken in recent years. Government needs to be commended for its prompt appropriation of funding required to eradicate new pests.

However, when the situation moves from a national response to a regional response, I believe flexibility is lacking. Organisations I have spoken to about this issue and comments that I have read all convey the same message: that establishing either National Pest Management Strategies or Regional Pest Management Strategies is a time-consuming and cumbersome process. Many consider the process is frequently out of all proportion to the cost of initiatives that may be put in place, or more significantly and importantly, can severely compromise the ability to either eradicate or contain various pests. This has got to be of concern to us all. You all know that when the horse has bolted there is no way of knowing when you'll catch it, or if you will catch it at all.

We have recently had direct experience of this in Hawke's Bay with the willow sawfly. This pest, I understand, was first detected in Auckland and quite rapidly spread down to the Hawke's Bay region via the Bay of Plenty. It has now become firmly established in many of the rivers in the region, and has devastated long stretches of the live willow edge protection which is such an integral part of flood protection on the Heretaunga Plains. I am not sure what could have been done at an early stage to have eradicated this pest and whether it was feasible at all, but what I am trying to illustrate through this example is what can happen when we tolerate or allow inflexible processes and requirements that stand in the way of sensible strategies and required actions that will help eradicate or contain pest incursions when they occur. Therefore, I would put to you all, and in particular, the Biosecurity

Pest management challenges Continued

Strategic Unit, the question of whether or not the existing legislation and required processes can provide the necessary flexibility to allow early and effective response in managing new incursions.

Focus

When I read our Council reports on the annual biosecurity work programme I, and many others, sometimes wonder whether we are making any progress. The number of both animal and plant pests that we are trying to deal with is now daunting. We're winning on a few fronts, holding our own on numerous others, and clearly losing the battle on too many. This isn't through want of trying or commitment or effort, but just the shear magnitude of the challenge of eradicating or containing many of the pests that have now established both in the Hawke's Bay region and in other parts of the country.

Spraying for southern saltmarsh mosquito. According to Andrew Caseley, biosecurity agencies must "stick to their purpose and responsibly take whatever measures are required to avoid, eradicate or control pest incursions.

Consequently, we need to have a crystal clear clarity of purpose. Without it, we risk duplication, oversight, and a lack of both strategic overview and careful focus in allocating the limited resources we all work with. We need to decide which key pests are going to have the greatest economic, health, lifestyle or environmental impact and associated social consequences. In many respects, we already do this by determining whether or not we will include certain pests in our Regional Pest Management Strategies, and no doubt national organisations have asked themselves the same question when it comes to establishing National Pest Management Strategies (which I would say, as an aside, there's clearly a woeful few of). There is some ability for each region to determine its own priorities, but in some instances we need an overall national consideration of just what the priorities and principal focus should be.

We all know that everybody has differing opinions as to what is most important and how to assess the greatest risk from each pest, however, this type of challenge is evident in a wide range of issues we deal with daily, and I have little doubt it can be overcome. At the moment I think we are fighting the war with a shotgun. A few pellets are hitting a few targets, but a great deal are missing altogether. We need to get smarter. We need to replace the shotgun with an accurately sighted rifle and pick our targets carefully. If we don't, I think that our stakeholders, including funders, politicians, and the community at large, will ask us just what we are achieving and we will consequently put at risk the commitment that presently exists.

Fortitude

It has an interesting definition: courage in adversity, pain and endurance. Great attributes, but many of you might be asking, what's the relevance to biosecurity, and how on earth is this a challenge? In my assessment, this is one of the bigger challenges of the lot.

In a recent letter to *Straight Furrow*, Bryce Johnson, Director of Fish and Game made the observation that New Zealand has become a very urbanised society with decreasing links to the countryside. He went on to say that to many city people, the countryside and farmers have become an alien culture. There are probably 101 reasons for this but I am sure all of us would agree with the observation.

In relation to biosecurity, continuing urbanisation of our society ultimately leads to a continuing reduction in sympathy, and ultimately tolerance for either the avoidance in the first place of the introduction of further pests to New Zealand, or attempts to eradicate or at least control them once they are here. Most, if not all, of our major ports and airports are located in urban areas. Given that they are the highest risk points of entry for new pest incursions, it is highly probable, and a recent reality, that they are the front line for major eradication or containment initiatives now and in the future.

However, where does the empathy of an urban dweller lie when a pest such as Asian gypsy moth must be eradicated because of the consequences it could have on both the forestry sector and the wider environment? There is already a staggering and bewildering lack of understanding of the source of much food and other primary products and the importance of pest management in producing them. As this ignorance increases, empathy deteriorates further; a challenge for those agencies responsible for avoiding new incursions in the first instance, and eradicating or controlling them in the next, is to stick to their purpose and responsibly take whatever measures are required to avoid, eradicate or control pest incursions. We have seen this approach already with the wide-scale aerial spraying operations in Auckland and Hamilton and I think most of us know that this will only get more challenging and difficult. I am not suggesting for a moment that we become insensitive to the legitimate concerns of communities or that we adopt an "all care, no responsibility" attitude; far from it. But what we can't do is renege on our responsibilities and, in particular, the actions that are in the wider public good.

That's just one part of the equation. The other is how

Pest management challenges Continued

we manage the risk of incursions occurring in the first instance. The rights of individuals are a fundamental cornerstone of a democratic society. They are important and need to be respected and upheld, but on occasions, the rights and interests of the public and our communities as a whole override them. It amazes me every time I read that there have been high risk pests detected at entry points into the country that are a consequence of an imbalance between the rights of individuals and the rights of the community. For example, I cannot believe that there are still items of second-hand machinery entering the country which are or can carry new animal or plant pests. There is little doubt in my mind that the wider interests of the public far outweigh the rights of the individual in these instances. Boundaries and authorities should be clear, they should be rigidly enforced through appropriate sanctions, and once enforced, I have little doubt that the situation will remedy itself rapidly.

The other issue along a similar theme which bewilders me is our tolerance of both plant and animal species which we know are a risk to our economy, health, lifestyle or our environment, and that are potential escapees from gardens, fish tanks or pet cages. The potential impact of these species is significant. Again, the argument about balancing the rights of the individual and the rights of the public as a whole is at the forefront of this debate.

If the rights of the individual were balanced by the consequences of their actions, I might be able to live with it. But this is rarely, if ever, the case. The pieces are left to be picked up by the public through the agencies which have responsibility. Consequently, again, I've got a black and white view on this.

If the risks are clearly established and the problems are identifiable, then the interests of the public as a whole should override the rights of the individual. It has only recently been reported that a certain variety of turtle has been identified in the wild. While it is highly unlikely to breed in most if not all waterways in New Zealand, the risk nevertheless exists. Do we really want one of the identified 10 worst animal pests in the world on the loose in our environment? I think we've got enough to contend with already. The answer is simple: one has to have the fortitude to make the decisions to ban various plants and animals that we know are just too much of a risk to be allowed into or to remain in the country in any form. It's a challenge, particularly politically, but it's one we must overcome or our already scarce resources are going to be stretched even further, and the consequences for our economy and environment will be significant.

Funding

Funding is a challenge for any public entity almost regardless of the issue. Biosecurity is no exception. However, before we deal with the issue of where the funding comes from we need to establish the capacity to undertake the role and functions required. It is then not only a matter of how much funding is required to deal with the issues that we are contending with but it's also the closely related matter of who ultimately should pay for the required actions. It's a challenge but it's far from impossible to determine; local authorities are used to dealing with this issue all the time. They are constantly managing the balance between public and private good and the degree of benefit between them. The key is to have a robust, sound and equitable approach to funding that is consistently applied, well explained, and with broad involvement as it's developed.

My experience is that most people who see that they are a private beneficiary of certain actions and initiatives will, having had the opportunity to comment on and having had input into the decisions that are made, accept the decisions leading to them contributing in various forms.

Our challenge is to put biosecurity funding on a firm long-term footing by convincing those who are the beneficiaries of their need to contribute, then delivering the expected results, thereby firmly establishing the long-term commitment from the whole community to the biosecurity challenge that is so important to this island nation.

To Murray (Sherwin), Paul (Stocks), Barry (O'Neill) and all the members of the Biosecurity Strategic Unit and Biosecurity New Zealand — go forth and conquer!

There is a significant part of our community and economy that relies upon our collective efforts, so I am heartened to hear the four challenges of flexibility, focus, fortitude and funding will be part of MAF's priorities as you confront and deal with some of the practical and strategic issues relevant to biosecurity.

Global Invasive Species Database

Your chance to help

The Global Invasive Species Database (GISD) is a free online source of information about alien species that negatively impact biodiversity. The GISD aims to increase public awareness about invasive species and to facilitate effective prevention and management activities by disseminating specialist's knowledge and experience to a broad global audience.

The GISD was developed in 2000 by the IUCN-World Conservation Union/SSC Invasive Species Specialist Group (ISSG) as part of the global initiative on invasive species led by the Global Invasive Species Programme (GISP). Information in the GISD is either created or reviewed by international invasive species experts and includes elements such as ecology, distribution, management information, references, contacts, links and images.

The challenge:

Invasive species are a global phenomenon — a global response and global information exchange are urgent requirements.

Many people are unaware of the potential impacts of invasive species and have inadequate information resources.

Information about invasive species is widely dispersed and difficult to access.

Global expertise and best practice for invasive alien species management and prevention strategies can be deployed locally to protect biodiversity and livelihoods against the devastating impacts caused by invasive alien species.

The target audience of the GISD ranges from untrained volunteer personnel in developed and developing countries, to quarantine and border control agencies, land managers, decision makers and scientists. The GISD delivers core elements of authoritative information in plain English via the Internet and in print. A CD-ROM version is also planned for those with limited, or no access to the Internet.

The GISD has been remarkably successful thanks to thorough user analysis and the goodwill and generosity shown by invasive species experts and supporters around the world. After more than three years of operation, we can point to an 8-fold increase in visitors (currently averaging 24,000 hits/day), endorsements from experts and strong support from partners such as the US Geological Survey's National Biological Information Infrastructure (NBII) as evidence of the importance of this work and the GISD's success.

If you can help us improve GISD profiles or create new ones please contact Michael Browne at m.browne@auckland.ac.nz You can search the database by species name, country, habitat or organism type at www.issg.org/database

GISP is seeking data on the following species.

Scientific name (51 species)	Common name	Organism type
Alternanthera philoxeroides	alligator weed	aquatic plant
Ceratophyllum demersum	hornwort	aquatic plant
Egeria densa	egeria	aquatic plant
Glyceria maxima	reed sweet grass	aquatic plant
Gymnocoronis spilanthoides	senegal tea	aquatic plant
Hydrodiction reticulatum	water net	aquatic plant
Lagarosiphon major	oxygen weed	aquatic plant
Ludwigia peploides	primrose willow	aquatic plant
Ludwigia peruviana	water primrose	aquatic plant
Mimulus guttatus	monkey musk	aquatic plant
Potamogeton perfoliatus	clasped pondweed	aquatic plant
Sagittaria platyphylla	sagittaria, delta arrowhead	aquatic plant
Sagittaria sagittifolia	arrowhead, Hawaii arrowhead	aquatic plant
Typha latifolia	great reedmace	aquatic plant
Utricularia gibba	bladderwort	aquatic plant
Vallisneria gigantea	eelgrass	aquatic plant
Vallisneria spiralis	eelgrass	aquatic plant
Zizania latifolia	Manchurian wild rice	aquatic plant
Osmunda regalis	royal fern	fern
Ameiurus nebulosus	catfish	fish
Scardinius erythrophthalmus	rudd	fish
Batrachochytrium dendrobatidis	frog chytrid fungus	fungus
Nassella tenuissima	Mexican feather grass	grass
Agapanthus praecox and cultivars	agapanthus	herb
Asparagus densiflorus	asparagus fern	herb
Eupatorium cannabinum	hemp agrimony	herb
Gunnera tinctoria	gunnera	herb
Houttuynia cordata	chameleon plant	herb
Polistes chinensis antennalis	Asian paper wasp	invertebrate
Scolia hirta	yellow scolid wasp	invertebrate
Vespula germanica	German wasp	invertebrate
Mustela furo	ferret	mammal
Phoenix canariensis	Phoenix palm	palm
Cestrum parqui	green cestrum	shrub
Banksia integrifolia	coastal banksia	shrub, tree
Ligustrum lucidum	tree privet	shrub, tree
Acmena smithii	monkey apple	tree
Archontophoenix cunninghamiana	bangalow palm	tree
Elaeagnus x reflexa	elaeagnus	tree
Ficus macrophylla	Morton bay fig	tree
Ficus rubiginosa	Port Jackson fig	tree
Olea euopeaus	Olive	tree
Pinus spp.	pine	tree
Rhamnus alaternus	evergreen buckthorn	tree
Salix cinerea	grey willow	tree
Syagrus romanzoffiana	queen palm	tree
Anredera cordifolia	madeira vine	vine, climber
Celastrus orbiculatus	climbing spindle berry	vine, climber
Cobaea scandens	cathedral bells	vine, climber
Dipogon lignosus	mile a minute	vine, climber
Psittacine beak and feather disease (aka Psittacine Circovirus Disease)	psittacine pox	virus

NETS2004 Workshop outcomes

Public support for incursion responses – what works, what doesn't

The last few years have seen a number of high-profile incursion responses in New Zealand triggered by the discover of pests such as Asian gypsy moth, southern salt marsh mosquito, some ant species, and painted apple moth. Public reactions to these responses have varied depending on the control methods that have been used and how they directly or indirectly affected the communities in which they were implemented.

Dr Joanna Goven from the University of Canterbury facilitated a workshop at NETS2004 on how best to achieve public support for incursion responses. This is a summary of the workshop discussions and outcomes.

A workshop at NETS2004 on how best to achieve public support for incursion responses was facilited by Joanna Goven, Senior Lecturer, School of Political Science and Communication, at the University of Canterbury.

The workshop noted that while there is widespread acceptance of the need for public engagement during incursion responses, there is often a lack of clarity about what the public engagement is meant to accomplish.

It was recognised that different groups would have different perspectives on this issue; in order to capture the widest possible input, and to see the differences resulting from these differing perspectives, the workshop was broken up into five groups, each of which reported back.

The five working groups were based around the following functional areas:

Regulators – essentially government department staff.
Local authorities – regional councils, district councils.
Science – researchers and advisors in the widest sense.
Operational – doing, monitoring, detecting.
Community – those affected by operations and proposed strategies.

Each group was asked to look at the key objectives of engaging with the public by answering the following questions:
Why should incursion response engage with the public/community?
What methods should be used to undertake such engagement?

This was meant to reinforce the point that the "how" of public engagement depends on the "why".

Groups developed their responses to these questions and delivered their findings to the full group along with a written summary.

Findings

The reasons for public/community engagement during an incursion response included:

- needing the public's co-operation to access properties
- extend surveillance through their eyes and ears

Levy introduced

The Ministry of Agriculture and Forestry (MAF) conducts pre-border and border inspections of risk goods to detect gypsy moth life stages. Gypsy moth egg masses are regularly detected during inspections; for example, 167 egg masses were found during 2003/04 inspections alone. However, gypsy moth can evade inspections, so post-border surveillance using pheromone traps to attract adult male moths is conducted at high risk sites to detect any incursion.

From November 11, 2004 MAF is charging a new Gypsy Moth Levy on imports of shipping containers and all used buses, cars, trucks, utility vehicles and vans from any country.

The charge will be 0.65c (GST inclusive) per container and/or used vehicle entering New Zealand, and will be used to fund the gypsy moth trapping programme which involves: trapping with1600 traps around high risk ports of entry, inland sites and areas where gypsy moth larvae could balloon from infested containers and vehicles between November and April (the time when the moth is likely to fly in New Zealand conditions); and identifying all suspect moths.

The benefit of this post-border surveillance was demonstrated in March 2003 when an adult gypsy moth was caught in a trap in Hamilton City. The Government subsequently approved MAF carrying out an eradication programme which will cost the Crown approximately $7.5 million over a three-year period.

All indications are that the programme has been successful, although a final announcement on eradication will not be made until post-programme monitoring is complete.

Public support for incursion responses Continued

- spread the message to others
- needing public acceptance of demands, both financial and behavioural, of the response programme
- allaying fears
- gaining acceptance
- changing behaviour
- preventing obstruction by community members
- creating a venue for direct community involvement in decision-making
- educating on and raising awareness of biosecurity
- conveying information
- the reasons for action being taken
- the possible impacts of action
- the effects of non-action
- managing misinformation
- getting public ownership of the problem
- expanding knowledge base of the problem, that is, the infestation itself and the impacts of the response programme

Restrictions put in place during Asian gypsy moth programme in Hamilton.

It was suggested that some of these goals are mutually incompatible; generally, those goals that require active participation by the community (in decision-making, knowledge production, surveillance, and so on) are incompatible with goals that see the public as needing to accept decisions developed elsewhere.

The discussion of methods of engagement highlighted the fact that the general orientation or approach of the response must be addressed as well as communication strategies. Suggestions included:

- reviewing past incursions and responses, mistakes made and lessons learnt
- reviewing what is and isn't known about the present incursion
- canvassing possible response strategies
- engaging with the public/community early
- being honest and open
- focusing on the affected community
- publicly engaging with the issues of activist groups
- building general biosecurity knowledge outside a specific response context
- keeping in mind the need for long-term acceptability of incursion responses

Communication strategies suggested were:

- using key spokespersons in the organisation and in the community
- targeting communities of interest
- having a comprehensive plan including and integrating: media communication; direct public communication; actions; compensation; contacts/ information
- projecting clear, relevant, positive messages
- showing decisions as based on evidence: show that technical science is robust
- identifying "what's in it for me" benefits
- interacting personally with the community
- addressing different target audiences in different ways: one on one; community meetings (using good impartial facilitation); specific interest groups (using more science and respected facilitators)
- using relationships already in place
- using a variety of media (local and/or national newspapers and radio, website, television, direct mail, 0800 number)
- maintaining a continuous flow of information
- involving community in disseminating messages

Several further points emerged from the discussion:

The question of when to engage is also important: before the actual incursion, on day one of the incursion; or after response strategy is decided? Should engagement continue after response has been completed?

Whether strategies for public engagement are effective or successful depends on the purpose(s) of engagement.

Conflicting purposes are reflected in conflicting strategies.

Long-term acceptability and support for biosecurity requires something more than public relations approaches to the community.

Looking at tomorrow's water weeds

Florida, with its extensive waterways and everglades, makes it ideal for aquatic weeds — something of a 'back to the future' situation for those who study and try to control aquatic pest plants.

NIWA's Paul Champion attended the 44th Annual Meeting of the Aquatic Plant Management Society in Tampa, Florida. He reports.

Hydrilla *in Lake Okeechobee.*

Florida is well known as home to just about every aquatic weed; it's also the home of the Aquatic Plant Management Society (APMS), which started out in 1961 as the Hyacinth Control Society, focusing on what was then the number one aquatic weed problem facing Florida. The Society has since grown to cover a much wider range of aquatic management issues, and it is now the largest international forum for aquatic plant control research and practitioners, producing the *Journal of Aquatic Plant Management* to keep members abreast of the latest developments in the field.

The APMS has a structure similar to our own NZ Biosecurity Institute, including regional chapters and a good mix of scientists, educators, students, commercial pesticide applicators, administrators, and concerned individuals, all passionately involved in the management and study of aquatic plants. It actively encourages and sponsors student involvement in the society, and has some pretty amazing fundraising initiatives.

In July this year I was fortunate to visit Tampa, Florida, to attend the 44th Annual Meeting of the APMS. Papers presented covered new registered herbicides; the economic impacts of aquatic weeds; the control (herbicides, biocontrol, habitat manipulation and integrated management) of various weeds including hydrilla, egeria, torpedo grass (*Panicum repens*, one we do not have yet, but similar to Mercer grass (*Paspalum distichum*) only worse!), Eurasian milfoil (*Myriophyllum spicatum*, another

Alligator weed (*Alternanthera philoxeroides*) at Lake Okeechobee. The biocontrol agents work well in Florida; I saw alligator weed at several sites throughout the trip but it looked innocuous. It's surrounded by hydrilla that looks a lot like egeria.

Looking at tomorrow's water weeds Continued

one to watch for), water hyacinth (*Eichhornia crassipes*), hygrophila, blue-green algae and *Caulerpa* species (marine algae); parasites affecting biocontrol; native/introduced species interactions; habitat restoration; and first instances of herbicide resistance as opposed to herbicide tolerance.

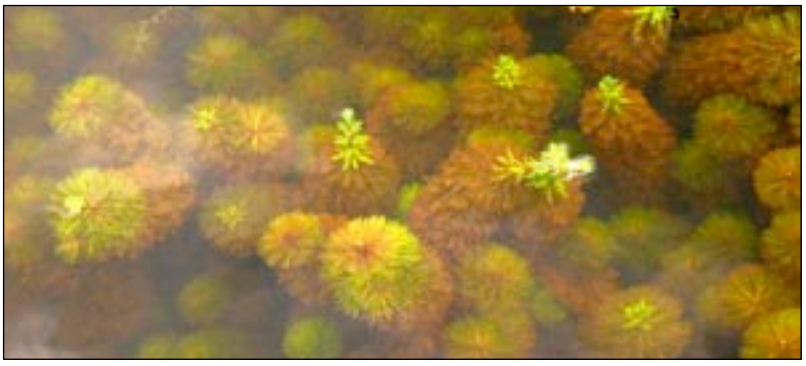
My presentations covered eradication programmes for a range of species, especially hydrilla; the tolerance of our strain of hydrilla (different to the two US strains) to the herbicides diquat and fluridone was of great interest to those scientists looking at resistance to both these herbicides. We have evaluated fluridone on a range of aquatic weeds in New Zealand, but it had little impact on any of them, whereas it is currently the most frequently used product in Florida. However, resistance issues with hydrilla may change this. I also presented a paper entitled "Weeds in waiting? Assessment of the risk posed by alien aquatic plants in the ornamental plant trade".

After the conference I joined Professer Bill Haller (University of Florida), two of his postdoctoral students, four Brazilians, a Jamaican and a couple of US herbicide reps on a tour of aquatic weed sites around Florida. This included visits to drains in Lee County, Lake Okeechobee, the Everglades Research and Education Centre, the world's largest constructed wetland for treatment of agriculture-based run-off prior to entering the low-nutrient Everglade wilderness areas, the flood control system in Lake Worth (inland from Palm Beach) where they need to balance prevention of salt intrusion with flood control, and finishing off with a visit to some ecologically damaging weeds on the margin of the Everglades. At the time of my visit there was too little water in these wetlands to allow easy access, but the climatic events of the past few weeks appear to have remedied this!

During the trip I built up a good understanding of the conditions favouring some of the potential weed species that we have in our aquarium trade here and which are already problem weeds in Florida. This will certainly help to focus future research evaluating their capacity to become future weeds in New Zealand.

The dreaded old world climbing fern (*Lygodium microphyllum*), a seemingly local nuisance until Hurricane Andrew dispersed its spores throughout Southern Florida.

Water lettuce (*Pistia stratiotes*, eradicated from NZ) and water pennywort (*Hydrocotyle ranunculoides*, a weed in Perth) in the largest wetland treatment system in the world.



Limnophila sessiliflora ***at Indian Lakes – our next aquatic weed?***

Notes from the 14th Australian Weeds Conference

Ian Popay and Amber Bill, both of the Department of Conservation attended the 14th Australian Weeds Conference in Wagga Wagga in September. They report.

About 10 Kiwis made their separate ways to Wagga Wagga early in September to join a total of about 350 delegates at the conference. While the conference itself was great, the weather wasn't — Wagga Wagga is 221m (726 feet) above sea level and it was cool and often wet while we were there. The locals were glad of the rain, though, because they had been having a drought.

Welcome and registration were on the Sunday evening and the conference proper started on Monday morning, with the early part of the programme rearranged to accommodate the late arrival of the Minister. The keynote speaker was Julian Cribb, a well-known science communicator. His very entertaining talk, 'The Age of Weeds', explained in detail his view that weeds had subjugated mankind to take them all round the world and prepare perfect habitats for them. Humour-aside, Julian exhorted us all to engage the public in dialogue and to build partnerships and share ownership of the weed problem. He was also a big fan of reaching adults through educating children.

Each morning started with a plenary session, during which four or five distinguished speakers presented talks of more general interest. One of the most interesting of these presentations was Craig Cormick's on 'Australian attitudes to GM food and crops'. His most important message was that perceptions of other people's perceptions are often a long way from the truth.

After the plenary session, each day was spent in four concurrent sessions. The different sessions were held in rooms reasonably close to each other and timing was carefully controlled, so that it was quite easy to move from session to session.

The New Zealand delegates tended to go to conservation and amenity, and communication and adoption sessions, although other papers were also of interest. Presentations of note were:

• Urban weed control: innovations in kerb and channel weed management, by Rod Wood, Brisbane City Council.

Video presentation about a vehicle for spraying kerbs and roadsides that senses and then sprays weeds, and

Damp field trip: The weather wasn't great when the 14th Australian Weed Conference was on in Wagga Wagga but the area was sorely in need of rain.

What do they mean… Continued

records its route through a GPS unit. It also corrects for wind speed and direction, and for the vehicle's speed. Its demonstrated benefits include reduced labour, herbicide use and treatment cost, with increased operator safety, operator performance and application consistency. Earlier tested hot water or flame treatments were three to four-fold more expensive than herbicide, much slower, and more hazardous.

• An adaptive experimental management programme for English broom *Cytisus scoparius* (L.) Link in Victoria, by Cathy Allan, John Wright and Kelly Raymond.

Description of a large-scale trial to test the effectiveness of glyphosate, triclopyr, triclopyr + picloram, or no herbicide, in the containment of broom.

• How is the national Chilean needle grass programme progressing? by Linda Iaconis.

Although Chilean needle grass was recognised as an invasive 70 years ago, it has "only recently been recognised as a serious weed threat". And now, of course, it's much too late to eradicate it, although a lot of time and effort is being put into the problem.

• Agricultural contractors bail up weeds — an accreditation system to reduce weed spread in Tasmania, by Cindy Hanson.

Tasmanian agricultural contractors approached the Department of Primary Industries, Water and Environment (Tasmania) and requested an accreditation system for weed hygiene which includes weed identification training (and an ID book) and clean-down procedures and sites (the code of practice), plus a simple-to-complete job sheet (a simple record of weed information relevant to each job), and a compliance agreement (audit and formalised accreditation).

• Community involvement in biocontrol – evaluation, by Sarah Holland-Clift and Raelene M. Kwong.

Community involvement in the biocontrol programme for bridal creeper (*Asparagus asparagoides*) was assessed in terms of the percentage of sites at which agents became established. The most successful releases were those carried out by biocontrol officers, but this also has a low rate of release. So, if communities are releasing agents at two to three times greater intensity, then the effectiveness will be the same.

As always, Kiwis were to the fore in making an impact at the conference. The following papers involved current Kiwis. Expatriate Kiwis who have defected to Australia also presented two or three other papers at the conference.

Orally presented papers:

• Watch for these weeds: public help in weed-led programmes in Northland, New Zealand, by Tony McCluggage.

• Motivating action and maintaining behaviour — challenges for Weedbusters, New Zealand, by Amber Bill, Ian Popay and Susan Timmins.

• Endemic fungi inhibit germination of serrated tussock seed: an alternative to classic biological control, by Seona G.Castonato, Ann C. Lawrie, Kym L. Butler and David A. Mclaren.

• Abiotic factors affecting the pathogenicity of a *Sclerotinia sclerotiorum*-based mycoherbicide, by B.M. Pottinger, H.J. Ridgway, G. Bourdôt and A. Stewart.

• Are we doing enough about early detection of weed species naturalising in Australia, by John Hosking, Barbara Waterhouse, Peter Williams.

• Estimating when to weed an organically grown onion crop, by Graeme Bourdot, Geoff Hurrell, David Saville.

In my opinion…

By Ian Popay

Many papers at Wagga Wagga concentrated on early detection and ways of handling it, sometimes by involving the public.

It's given as accepted that if you find new weeds early, you have a good chance of "eradicating" them.

I have some problems by what is meant by eradication, though. Most of our new weeds come from garden escapes, and a species may "escape" in more than one place.

I believe we should be eradicating newly naturalised species, possibly after a quick weed risk assessment. At present we watch them to see if they become serious weeds, but by that time, it's usually too late. But, if we eradicate new naturalisations, do we also have to eradicate those species from all gardens as well?

If we don't, they'll only escape again.

Logic says, 'Yes.'

Logic and experience…

Richard Mack from Washington State University shared an eradication tale from the early 1900s (WW1), which saw barberry (*Berberis vulgaris*) eradicated from a local area; only one bush was found in a recent survey.

The same principles apply today if eradication is the goal: early detection, swift action, destroy ALL plants (beginning with outliers), and keep on searching, making your efforts long term.

What do they mean… Continued

Poster papers:

• Classical biological control of Californian thistle: the New Zealand story, by Hugh Gourlay.

• Interactions between two weed biological control agents, an insect and pathogen, and the response of their host, by Peter Turner, Louise Morin, David Williams, Darren Kriticos.

• The 1st 1000 days: communicating the introduction of change in the New Zealand Department of Conservation, by Ian Popay.

• Sacrificing innocents to get the outlaw — the benefits of early control, by Simon Harris, Susan Timmins, Dane Panetta.

• Does gorse make a difference? by Peter Williams, Jon Sullivan, Susan Timmins.

The next Australian Weeds Conference will be held in Adelaide in 2006, and the one after that is proposed for Queensland in 2008. Beyond that, Ian Popay has applied for the NZ Plant Protection Society to become a member of the Council of Australian Weed Societies (CAWS), responsible for organising these conferences. So, one day, we may see the Australian, or perhaps Australasian Weeds Conference in NZ.

Lynley's Wagga words of wisdom

- Weeds are still not on the radar of the average Australian, only ranking 20th in a recent lists of their concerns. Politicians often don't want to know about weeds as they are a symptom of poor management.
  Bad news sells more newspapers than good news; to get weed issues covered in the media they therefore need to be presented as bad news. It can help to spell out what (preferably cute or furry) species are being threatened by weeds. In the age of information overload how do you get your message across? Stop shouting and listen! Target small community groups, find out what they want to know and give them that.
- Plant systematics is under resourced in Australia (this is a worldwide problem) and there is a need for weed taxomonists to be attached to every herbarium. Also, more botanists and other suitably skilled people are needed to go out and look for new weeds. Areas to be targeted include around population centres and areas with a high concentration of gardens.
- All Australian states and territories have their own weed legislation which makes co-ordination difficult. A quarter of the species that have been declared "Weeds of National Significance" are still being sold in nurseries in some states. Loopholes in quarantine laws are also still allowing undesirable species to come into the country and it could take many years before these loopholes are closed. The HSNO Act was touted as a good model that other countries should follow.
- Fashions in Australia that are currently affecting what plants are sold in garden centres include climate change (more drought resistant plants), larger houses on smaller sections and garden makeover shows (smaller plants and more container plants, certain colours, instant gratification plants), and dislike of chemicals (more pest and disease resistant plants).
- Eradication is only feasible when the distribution of the target species is well known and not too widespread. Understanding the longevity of seed banks is of critical importance when developing eradication strategies. Some species have short-lived seed banks while others persist for many years and unfortunately the only way to find out is through real-time investigations. Such studies can at least allow you to identify fairly rapidly whether you are dealing with a short-lived seed bank or not.
- Australian governments are becoming increasingly risk-averse which is beginning to strangle biocontrol programmes there while environmental damage caused by weeds continues unchecked.
  A call was made for rational decision-making and proper assessment of the risks involved without hysteria or media hype. A possible approach to managing the low risk of biocontrol programmes was suggested. A system of bonds or insurance could be imposed on biocontrol programmes to cover the cost of any issues should they subsequently arise.
- Revegetation programmes must accompany control programmes (especially biocontrol) if we are to avoid simply replacing the target weeds with other weed species.

Border bits

Reflecting the excellent job the men and women (and dogs) of MAF's Quarantine Services do, the following are some of the biosecurity interceptions made recently:

A live giant African snail on top of a container from Apia.

A packet of bean seeds nestled in a specially carved hole in a book being posted into the country.

Carpenter ants (*Camponotus* sp.) on used Australian hardwood sleepers.

Plants, deer horn and snake gall bladder, monkey head fungus, crocodile meat, unknown dried white cubes and herbal tea with seeds — all of which was secreted in various pieces of clothing, including specially sewn bags, on one individual.

Brown widow spiders and egg masses on containers.

Live mosquito larvae in used tyres.

More bean seeds in a woven basket lid (*Ed's note: do people overseas know of a New Zealand bean seed shortage that those of us in the country haven't heard about yet?*), soil and roots contaminated with seeds and other plant material for religious use.

Seeds, complete with a phytosanitary certificate, with large holes where insects emerged in transit.

An alligator head which was declared but which didn't have the necessary CITES documentation.

Decking timber from Indonesia that arrived in Wellington infested with insects.

Twenty four brand new Holden vehicles from Australia that needed steam cleaning and two other utes that had trays containing tree seeds.

Live spiders and other contamination in a crate of historic aircraft parts.

A box of 150 bulbs of various species in amongst camping gear.

Several boxes of Christmas decorations containing seed-bearing pine cones.

A package being sent by mail declared as "historical items" but containing fresh aloe plants.

Seeds found in lid of woven basket.

Fresh plant material with roots and soil attached, wrapped in damp tissue and declared as "gift".

A package containing sunflower seeds, feathers, chestnuts, maple leaves and other fresh leaves.

Two large *Lepidoptera* pupae on the front tyre of a used vehicle.

Source: Fast Facts, MAFQS

Biosecurity bits

Caviar-chomping mice, French fear over frog-leg threat, boared models in sparkly gowns, wealthy weeders and squashed frog sundaes — it's all happened since the last issue of *Protect*.

Auckland Zoo has been left with a brand new, quarter of a million dollar **quarantine station** and nothing to fill it after MAF put the brakes on a proposed swap of birds with British breeders. The increase in incidents of avian flu and West Nile fever overseas has meant that import restrictions have been tightened.

Ocker politicians' promises made during the recent Aussie elections may prove a pain for New Zealand apple growers. The establishment of a new biosecurity watchdog across the ditch means that all bets are off and the application to overturn the 83-year-old ban on the import of New Zealand apples into Australia goes back to square one. Aussies have argued that the risk of **fireblight** from New Zealand apples justifies this ban; the World Trade Organisation thinks otherwise, but it looks like the fight will go on for some time yet before it is all settled.

In Thailand, a million volunteers disinfected farms and buried dead chickens amid fears that the **avian flu virus** has mutated and is now spreading human to human. One hundred million chickens have died or have been culled since the outbreaks began, and the disease has also affected pigs, wild birds and pet cats and zoo tigers than have eaten raw chooks; one zoo alone has lost 23 tigers to the disease. Quarantine efforts are being confounded by the movement of fighting cocks and wild fowl, and farming of poultry is set to go from free range to factory farming to close down this transmission pathway.

Weedbusting in New Zealand has had an injection of class, with young ladies from titled and exceedingly rich families from overseas getting their hands dirty doing weeding in Auckland reserves. This work is part of the community service component of a new international programme called 'via' that is designed to give the posh youngsters a final polish before they head into the real world.

Government funding of $1 million to help Pacific Islands protect their biodiversity from invasive species has recently been announced. Borders of many islands are lax, and international travel, imports and accidental introductions are rife. This funding will allow New Zealand specialists to help Pacific Island peoples build capacity to address biosecurity issues.

A **cotton top tamarin monkey** that made a bid for freedom from its enclosure is unlikely to have made it out of Wellington Zoo, says a report from the Environmental Risk Management Authority (ERMA). It is more likely it was eaten by an animal further up the food chain, which no doubt appreciated an exotic addition to its usual zoo diet. A **Houdini elephant** which staged a more elaborate breakout involving shorting out an electric fence and breaking down a gate fared a bit better in that it made it back to its enclosure in one piece, but not before running its keepers ragged chasing it through a nearby pine forest.

Indian farmers have turned to two well known beverages in the fight against crop pests — **Coca Cola and Pepsi is being used to spray bugs**. Both companies are adamant there is no basis in the rumours of their products having pesticidal properties, but local vendors are no doubt thrilled with the increased sales that have resulted. Coca Cola and Pepsi are both cheaper in India than conventional pesticides.

Photo: Air New Zealand Fashion Week

One lucky model had to make a silk purse out of a **wild boar's head** at the recent Air New Zealand Fashion Week. Morrinsville designer Annah Stretton (better known as Annah S) commissioned Waikato's Wayne Bennett (taxidermist and dedicated riverbank weedbuster extraordinaire), to provide the unusual headgear designed to stun the crowds at the show; Wayne's solution was to mount the dyed and be-tuskered boar's head over a motorcycle helmet, for which the model must have been eternally grateful. The ensemble was rounded off with a jewelled 1950s-style white prom dress and a tiara delicately perched on the rather hairy ears — the boar's ears, not the model's.

French gourmets must be are tearing their hair out over a particularly **voracious giant crayfish** (*Procambarus clarkia*) that is threatening the national dish of frogslegs. The bright red crustaceans were deliberately introduced from the United States to France in the 1970s when indigenous crayfish populations declined. Each female lays 700 eggs twice a year, and in some places, have reached densities of up to three tonnes per hectare. As well as eating tadpoles and plant species, this invader also carries a fungus that affects its French relatives.

Wallabies have found their way to northern Otago and the outskirts of Dunedin. DOC suspects that this movement has been aided by soft-hearted people rescuing baby wallabies and then releasing them when they get too big to manage.

Biosecurity bits Continued

The appearance of a particularly unattractive Northern Hemisphere algae in New Zealand's Southland rivers is causing concern. The **didymosphenium algae** causes problems overseas, choking waterbodies and crowding out invertebrate species that are a food source for fish species. It may have arrived in New Zealand on angling equipment that had not been properly sterilised before coming into the country.

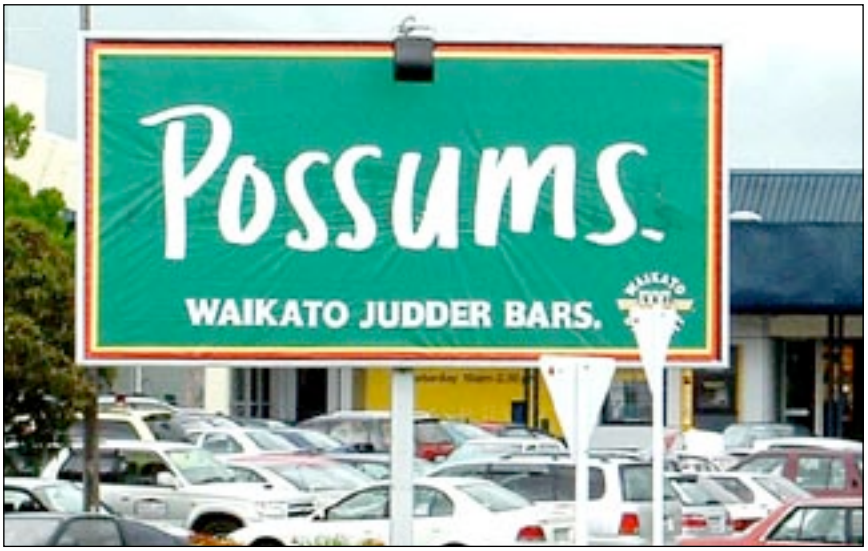
Nelson is the site of the most recent find of **Argentine ants**, with two blocks of homes affected. The Nelson City Council is planning to blitz the colonies but landowners are being warned not to try and treat the nests themselves as this could trigger a "breeding frenzy" that could make the problem worse.

Hundreds of thousands of **baby cane toads** have infested a reserve at Byron Bay in Australia, making it look like the ground is moving, according to onlookers. Female cane toads can lay up to 35,000 eggs a year, and they can eat almost anything in their path. It is hoped that extermination efforts will safeguard native species threatened by this onslaught.

Another amphibian was not so long lived when it hitched a ride in a container of Ecuadorean bananas and was eventually found in a Wellington supermarket. A sign of the times — the **squashed frog stuck to a banana** ended up on the front page of the *Dominion Post* before being reported to MAF as it should have been in the first place.

Pictures of the great pyramids of Giza clouded out by a **plague of pink locusts** has added a biblical flavour to world news recently. The swarm, covering several square kilometres, has been blown by northerly winds into Egypt. Although each insect can eat its body weight each day, experts expect minimal damage in Egypt itself as the swarm is moving rapidly.

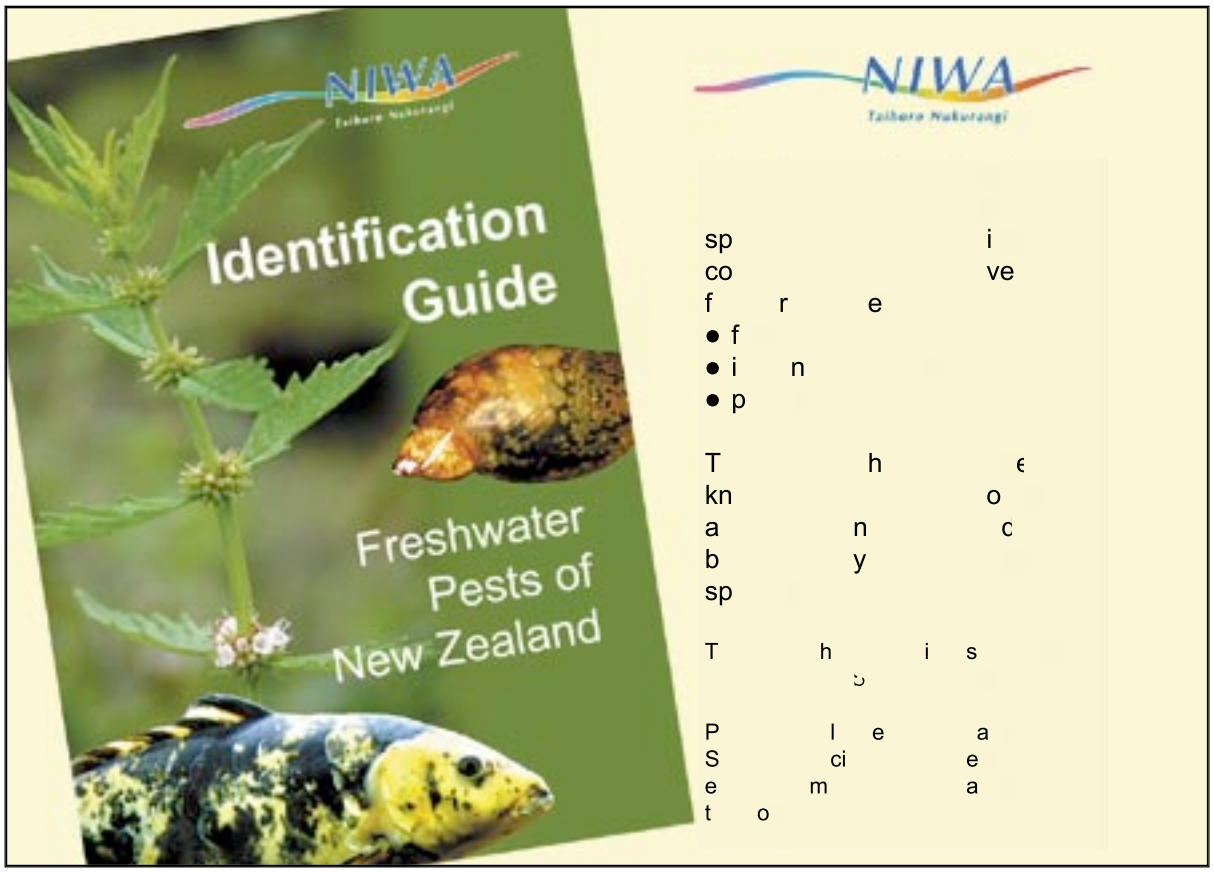
Only months after studies cleared them of damaging beech forests by eating too many seeds, mice are now suspected of damaging **whitebait stocks**. One little critter was caught on camera raiding the caviar stocks along a waterway; further research will determine whether mice are a major contributor to whitebait decline or not. It is estimated that 80% of fish eggs are lost from laying areas before being washed out to sea.



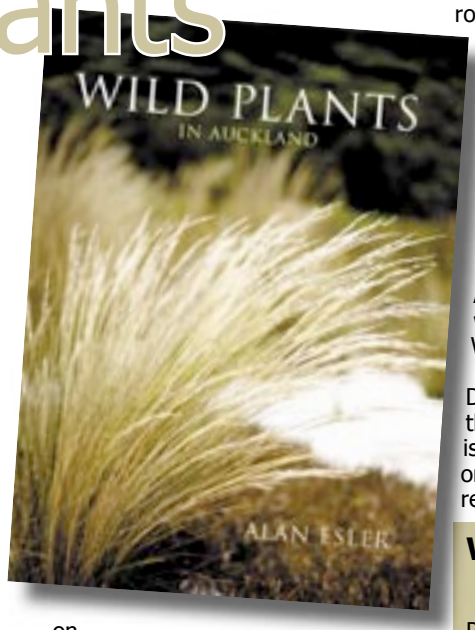
Landcare Research is getting closer to a method of **birth control for possums**. The use of a vaccine containing "bacterial ghosts" that are produced from harmless *E.coli* bacteria results in an immune response in female possums that renders their eggs infertile.

Regional council biosecurity staff caught a lone **red-eared slider turtle** in a stream in Auckland. The turtles are banned in Australia, England and EC countries but not New Zealand, where they are regularly sold in pet shops. They are aggressive with a painful bite, are prolific breeders and are known to carry diseases.

New Books



Wild plants



may be as simple as a weedy patch in a garden or as complex as native forest in a bushy gully.

A large proportion of Auckland's living landscape is made up of urban plants growing without intentional human aid. Every kind of plant is different, in its form, its requirements and tolerances, its life history and its influence on other plants.

In words, and in exquisite line drawings and colour photographs, this fascinating and approachable book by an expert in the field tells the story of 322 species that grow wild in New Zealand's largest city.

The first part of the book demonstrates the place of wild plants in the urban vegetation, showing in detail how today's landscape evolved.

The second explores some of the ways in which these plants impinge on our lives, in building and farming, in parkland and forest walks, and in science.

The last section tells how they are structured for their various roles in the plant communities.

Alan Esler's enthusiasm for his subject, his wide experience and knowledge of Auckland's rich and varied flora and his awareness of the wider context in which plants live and grow make this a remarkable book. Students, teachers, managers of turf, weeds and trees, gardeners and everybody who appreciates Auckland's unique environment will be intrigued and informed by Wild Plants in Auckland.

Alan Esler was for many years DSIR Regional Botanist based at the Mt Albert Research Centre and is the author of many publications on the botany of the Auckland region.

Wild Plants in Auckland
by Alan Esler

Published by Auckland University Press, paperback, photographs, original line drawings.
RRP $NZ 39.99

The following letter was received in appreciation of the money raised for Eastern Bay of Plenty flood victims from donations given by attendees at NETS2004 in Rotorua.

Opotiki District Council

The Eastern Bay of Plenty Mayoral Disaster Relief Fund Trust

Whakatane District Council

C/- Whakatane District Council, Private Bag 1002, Whakatane 3080, New Zealand
Telephone: +64 7 306 0500, Facsimile: +64 7 307 0718, email: janiew@whakatane.govt.nz, www.whakatane.com

5.1.9.6

17 September 2004
Ms Rosemary Michie
Environment Bay of Plenty
10 Waana Street
Mourea
ROTORUA

EASTERN BOP MAYORAL DISASTER RELIEF FUND

Greetings from the Opotiki and Whakatane Districts where once again we are living with the sun.

We are humbled by the kindness of so many people from all ages and walks of life who have given so generously to the fund for the people of the Eastern Bay, who have been so badly affected by the recent floods and landslips.

On behalf of the District and people who are endeavouring to remain positive in the face of such widespread devastation and despair, we thank you for your kind donation of $716.50.

The Mayoral Relief Fund has been established as a registered charitable trust to accept the many donations that have been offered. It is a joint Opotiki/Whakatane District fund that allows donations to be tagged for either or both districts. You may rest assured that the money you have so kindly given in support of this Disaster Relief Fund will be used with the utmost care and concern for those most in need.

Your contribution and the spirit in which it has been provided will encourage and hearten those in need and reminds us all that our lives are full of people who care.

Thank you.

Sincerely

John Forbes
MAYOR
OPOTIKI DISTRICT

Colin J Hammond JP
MAYOR
WHAKATANE DISTRICT

Emailed to *The Listener* in response to an article it ran accusing DOC of waging a 'native plants only' campaign and lamenting the removal of agapanthus from Auckland roadways. While this letter was not printed, one from DOC and another concerned reader, both challenging the article's assumptions, did make it in.

Dear Sir,

Douglas Lloyd Jenkins' article defending Agapanthus (October 2, 2004) repeats the same tired arguments heard from other gardening commentators in the past when their pet plants were identified as ticking environmental time bombs.

Yes, many invasive plant species, such as agapanthus, are very pretty. They were introduced into New Zealand because of their good looks; but then a significant number of plants that have gone on to become seriously invasive were originally ornamental garden plants.

Yes, most invasive plant species, such as agapanthus, are very "hardworking". It is their hardiness, prolific reproductive methods and growth habits that make them such an aggressive invader of sensitive bush, wetland and coastal areas.

Yes, many invasive plant species, such as agapanthus, have been in the country for many decades. They were well behaved when they arrived, entertained us for a while, and then when they well and truly settled in, proceeded to "jump the fence" and start taking over areas where they now cause ecological damage.

Those people who choose to shun invasive exotics, such as agapanthus, should, rather than being reviled as showing "herd-like devotion" and "wholesale addiction" to fashion trends, be praised for their commitment to responsible gardening practices. Future generations are more likely to thank them for their foresight than heap praise on designers who can see no further than a pretty flower and their own narrow understanding of environmental concerns.

Yours sincerely

Carolyn Lewis
Vice-President, New Zealand Biosecurity Institute