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# Protect

New Zealand Biosecurity Institute

*Our mission: "To preserve and protect New Zealand's natural resources from the adverse impacts of invasive pests."*

NZBI thanks Horizons Regional Council for printing and posting the hard copy of *Protect*.

# Protect

## Winter 2008

## Magazine of the
## New Zealand Biosecurity Institute

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# Editor's Note

Greetings once again.

While it is somewhat chillier, the days are slowly getting longer and the alpine adventures are moving into full swing. We have NETS this month which looks to be a great event with high quality presentations and a fantastic range of field trips lined up.

This issue of *Protect* includes part two of our mosquito surveillance and response feature by Rachel Cane; a run-down of the Australian Weeds conference from Lynley Hayes; a case study on controlling eel grass from Ben Minehan; as well as our usual MAFBNZ News and Branch round-up. The vertebrate pesties' have been very quiet this issue, likely hard at work with winter operations – it would be great to write up some results from these for our spring and summer issues.

Our spring issue will include a round-up of NETS 2008 and will be my last issue as Editor of *Protect*. I've had the role for two years now and its time to hand it on. Please contact me or one of the Executive by email or at NETS if you would like to take this role on. It's a great chance to talk to and work with a wide range of people in the Biosecurity sector.

Enjoy the articles and the frosty mornings!

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New Zealand Biosecurity Institute

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# News from the Executive

### Kia ora and hello from the Executive!

Welcome to the winter addition of your biosecurity quarterly. *Protect* is here to provide you with information on biosecurity matters, interesting projects and equally interesting people. If you're involved with something biosecurity related that you'd like to tell others about then we'd love to hear from you, either as an article for Protect or as a presentation at our annual NETS.

## AGM

This years AGM will be held at the Novotel Tainui, Hamilton, 23 July 2008 at 5.00pm. You are all invited; yep the Exec would like as many members as possible to participate in the decision making processes that guide the Institute along. The final amendments to the existing constitution that were mooted at last year's AGM have been circulated; please make sure that you have a good look at them. General business will also include discussion about our website's future potential for serving its members better.

## Study and Travel awards

The recipients for the latest round of Study and Travel awards have been decided.

Danielle Middleton was awarded the Study Award. Danielle, who is studying for a Masters (and hopefully a PhD) at Massey University, is looking at species of salmonella on lizards, to identify which are found on NZ's native lizards. This will be used to help identify risks from introduced reptiles to NZ lizards. She will also be looking at best methods to isolate salmonellas. This research is directly relevant to biosecurity and is on species for which there is little commercial funding available.

Dave Galloway from Auckland Regional Council received the Travel Award to attend the Australian Vertebrate Pest Conference in June. This is an important international conference and Dave will be bringing back ideas and information to share (via Protect and NETS) as well as hopefully establishing some good contacts and dialogue for NZBI.

## New members

The NZBI warmly welcomes the following new members:

**Rupert Lewis**
**Trevor Partridge**
**Natalie Brodie**
**Mark Geaney**
**Stuart McNaughton**
**Ken Wright**
**Richard Grimmett**
**Owen Southen**
**Liana Middeldorp**
**John Owen**
**Diane Fraser**

## NETS2008

Grab the chance to keep up to date with what's happening in the biosecurity industry in New Zealand, as well as the great networking opportunities afforded at NETS2008.

NETS2008 highlights will include keynote speakers including Dr Rachel MacFadyen from Australia's Cooperative Research Centre, and Dr Mick Clout from the international Global Invasive Species Programme; New Zealand biosecurity practitioners highlighting current issues and solutions in talks and workshops; and local biosecurity and biodiversity field trips showing that Waikato is definitely where it's happening.

Registration forms can be found at www.nets2008.co.nz

**Craig Davey**
**President**
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# News from the Branches

## Auckland/Northland

Over the last year, the branch has been relatively quiet with just the one meeting which was informative and educational. Branch membership has remained steady with members totalling about 100.

Our most recent meeting was held at the Wellsford Fire Brigade House on June 18 and began with morning tea, following by our AGM and general business.

After the formalities we had two talks, one on red-eared slider turtles and the other on Manchurian wild rice control. A hearty barbecue lunch was enjoyed by the 30-odd members who turned up for the meeting.

In the first talk on red-eared slider turtles, Greg Hoskins and Andrew Stein discussed how escaped or released red-eared slider turtles were being captured in the wild in the Auckland region.

Since October 2004 when a red-eared slider was reported in the Waitupu Stream in the Bethells Valley, Biosecurity officers have received many sightings of the turtles from concerned public throughout the Auckland region.

Red-eared slider turtles (*Trachemys scripta elegans*) are freshwater turtles that occur naturally in the lower Mississippi drainage system of the southern United States of America. They are popular pets and have become established in about 20 countries around the world. The species is recognised as a threat to biodiversity when introduced to areas outside its natural range.

Peter Joynt updated the group on Manchurian wild rice control in the Wairoa River and its catchment. It arrived accidentally in Dargaville in ship ballast, and was first recorded in the wild in 1906. Since then it has become abundant in the Wairoa River, spreading far along watercourses in all directions from the initial site, to cover an area of about 350ha.

***A red-eared slider turtle (*Trachemys scripta elegans*) captured at Pakuranga Golf Course on March 27.***

Manchurian wild rice is a giant emergent perennial rhizomatous grass which grows up to 4m tall, is very invasive, blocks drains and access to water and can invade pasture.

Gallant herbicide, applied both from the ground and air, is being used to control the weed. Manchurian wild rice was identified as a pest for eradication through the national priority pests programme, and the eradication programme of the pest throughout New Zealand is being funded by MAF Biosecurity.

**Greg Hoskins**
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## Canterbury

The Canterbury NZBI branch had an enjoyable social evening in February dining on delicacies and wine after a leisurely walk looking at some of the coastal areas from Sumner to Godley Head, where Keith Briden has been working on controlling boneseed. (See article: Weedbuster gone fishing)

Inspired by his example of clearing kilometres of coastal walkways of boneseed, we are taking on Nicholson Park, a local reserve on Scarborough, above Sumner, as a project in conjunction with the council.

We will do some hands-on weed control, hopefully with the occasional barbecue and refreshments.

The branch held its AGM June 6.

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# Branch News Continued

## Lower North Island

The Lower North Island Branch of the Biosecurity Institute held its AGM and field trips over two days on April 17 and 18. The function was hosted by Greater Wellington Regional Council, led by branch president Pedro Jensen. The first day was held at the Tauherenikau racecourse, in southern Wairarapa.

The aim of this year's event was to provide branch members with a mini-NETS experience providing both a range of guest speakers and field trips showcasing what's happening in biosecurity within the wider Wellington region.

Traditionally, the Lower North Island Branch get-togethers have been focused on pest plants but with the recent integration of the Vertebrate Pest Management Institute into the NZBI, the programme was developed specifically for both plant and animal pest officers as well anybody else in the wider field of biosecurity.

The first day was well attended with representatives from Wellington, Horizons and Hawkes Bay regional councils, Wellington City Council, Upper Hutt City Council, Kapiti Coast District Council and DOC.

After the AGM an excellent barbecue lunch was enjoyed under the grandstand while much-needed rain fell steadily outside. With appetites sated, we returned to the meeting hall to be entertained by five speakers, from DOC, Biosecurity NZ and Victoria University. Topics ranged from "how did didymo contaminate just about everything", to "the link between the pet trade and invasive species in New Zealand", to "how wasps and ants co-exist on the same species of beech trees in the Nelson region".

After these activities, members were invited by Mike Urlich, on a guided tour of beautiful native forest that surrounds the racecourse buildings. We were shown thousand-year-old kahikatea trees, an excellent example of *Tradescantia* control and the subsequent native seedling regeneration — well done!

The following day, with more interested people joining the fray, we made our way to vineyard owner Clive Paton's property, south of Martinborough. Clive has covenanted 48ha of bush and set up "Waihora Watch", a group of neighbouring farmers whose mission is to protect the Waihora Stream and catchment. Clive's Ata Rangi vineyard has also formed a marketing collaboration with Project Crimson charitable conservation trust, a project that developed out of Clive's work with regeneration of northern rata on his 120ha bush block.

Clive spoke at length on the history of his block of land, now covered in regenerating bush, that only 70 years ago was cleared for farming. When Clive saw the block of land he also saw the opportunity to realise his dreams. One dream made reality was the chance to make his vineyard "more green" by inter-planting exotics and natives, with the exotics — *eucalyptus* species — providing both posts, which do not need treating, for his vineyard, and a nurse plant for native species.

***What is the collective noun for a group of utes? Lower North Island Branch members on a field trip following their AGM in April.***

While Clive spoke, the group was harassed by hundreds of wasps bringing home to all of us that they really are a nuisance this country could do without.

After the field trip the group was split into two. Those with animal pest interests visited Fanshum Reserve, one of the Key Native Ecosystem sites, led by Ray Clarey. While Greater Wellington Regional Council manages a number of KNE sites this particular one demonstrates a well nurtured site that receives ongoing predator control in association with a Forest and Bird care group.

Ray spoke on the effect long-term predator control has had on the reserve, mentioning the vast number of native birds now present. While Fenshum Reserve is well tracked with boardwalks and sign posted, some members managed to lose their way… they may have been looking for Ray's "fantail fantasy land"?

Plant pest staff visited Lake Wairarapa where Phillipa Crisp and Kim Broad outlined the proposed regional park in the area surrounding the lake and its associated problems. One significant problem is the presence of alders which are invading prime estuary at the edge of the lake. The species now covers many hundreds of hectares. This presented an ideal opportunity for experienced "plant pesties" to voice their opinions on the best methods of attack — while contractors' chainsaws whined in the background. We all wished them the best of luck.

The event was heralded as a huge success by all who attended. A great experience was had by all. There was something on offer for everybody and plenty of time to catch up with fellow biosecurity officers.

**Neil Gallagher**
**Branch Secretary**

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# Branch News Continued

## Central North Island

A meeting held in Whakatane in April saw a healthy turn-out of members from as far away as Taranaki. After a brief meeting we shared some interesting photos, some of which sparked some lively debate.

Several hectares of horsenettle (*Solanum carolinense*) in maize paddocks around Opotiki is giving rise to some alarm — though in full flower it provides a lovely mauve haze across the now-fallow paddock!

From the Waikato there were some extraordinary shots of attempts to remove terrestrial alligator weed from a planned subdivision with a digger. Despite several metres of soil being removed, the alligator weed still sprang back from roots at the bottom of the hole.

Yellow bristle grass was also a topic of some discussion. This unpalatable annual grass is becoming increasingly common in the Bay of Plenty. And there was some footage of didymo from a South Island field trip.

Dave Paine gave us a run down of the extensive pest control work associated with the Whakatane kiwi programme which has allowed 80 kiwi to flourish in a large reserve adjacent to the town, providing "townies" with the unique experience of being able to hear kiwi calling almost from their back doorsteps.

A brief lull in the rain allowed a quick visit to the shores of the Ohiwa Harbour to look at the work a local care group has done protecting a large salt marsh by carrying out weed, rat and mustelid control, bird monitoring, walkway construction, revegetation and interpretation panels.

Thanks to Environment Bay of Plenty for the lunch and facilities.

A very brief AGM took place in June in Hamilton, at which all the current office holders were re-elected. Thanks this time to Environment Waikato for lunch and facilities.

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# Finding New Pests:

## Surveillance for Biosecurity Seminar

**Where:** Copthorne Hotel, Paihia **When:** 11th August 2008

This seminar has been organised by the New Zealand Plant Protection Society, as a lead-in to the society's three-day annual conference to be held at the same venue.

Growing international trade, greater mobility and the effects of climate change make New Zealand's borders increasingly vulnerable to new pests and diseases, many of which could destroy our economy and our natural environment.

The biosecurity system works at the border and after the border, and as you will hear at the seminar, also covers potential biosecurity risks managed offshore before potential pests reach our border.

Researchers and practitioners from Crown Research Institutes, the Department of Conservation, Regional Councils and Biosecurity New Zealand will present papers, and two speakers from Weedspotters, in Australia, will also present on their work on identifying and controlling weeds.

Dr John Hellström, Chair, Biosecurity Council will open the Seminar.

**For more information, go to New Zealand Plant Protection Society website: www.nzpps.org/index.php or contact Karyn Froud (Karyn.Froud@maf.govt.nz) or Ian Popay (ipopay@doc.govt.nz)**

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# Member Profile: Rachel Cane

Role Senior Entomologist and Laboratory Manager
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After completing a Masters with honours in Plant and Microbial Sciences at the University of Canterbury in 1996, I worked on a number of short-term contracts before securing a position in the then Biocontrol and Biodiversity group at AgResearch Lincoln.

This position was my first experience in the field of biosecurity, working with biocontrol agents to control the spread and damage caused by invasive agricultural pasture pests.

Initially, I was involved with the mass rearing of introduced parasitoid wasps for release against the Argentine stem weevil. As these releases were nearing completion, the dramatic increase in the spread and impact of the clover root weevil saw my role in the group change and I became involved in the search for new control agents for that pest. This took me to the south of France where I worked at the USDA's European Biological Control Laboratory near Montpellier for 2½ months.

Once back in New Zealand, I was able to develop skills in molecular techniques.

In 2002 I successfully applied for a position of taxonomist with New Zealand BioSecure and moved both to its Napier laboratory and to the world of border health.

The work primarily comprised identifying mosquito specimens for the Ministry of Health's exotic mosquito surveillance and southern saltmarsh mosquito eradication programmes, but also involved on-call responses to exotic mosquito interceptions, control product trials and provision of training and advice to public health units.

In 2005 I was promoted to NZB Laboratory Manager and later that year moved to Upper Hutt when the laboratory relocated to Gracefield. The move provided better access to the local science community and has allowed me to participate on multi-agency collaborative biosecurity projects, including several on vectors and vector-borne diseases for which I have had the opportunity to upskill on the identification of ticks.

***Rachel Cane and kaka at Pukaha Mt Bruce National Wildlife Centre in the Wairarapa.***

**Rachel Cane**

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# The National Exotic Saltmarsh Surveillance Programme

**By Rachel Cane, Mark Disbury & Monica Singe**
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The National Exotic Saltmarsh Mosquito Surveillance Programme (NSP), funded by the New Zealand Ministry of Health, was established in 2005 to prevent the establishment of populations of exotic saltmarsh mosquito species that could pose a human health risk in New Zealand, through early detection.

On December 24, 1998, *Aedes (Ochlerotatus) camptorhynchus* (Thomson) the southern saltmarsh mosquito (SSM), an Australian species, was discovered in Napier. This species is an aggressive biter and a competent vector of Ross River virus, a debilitating disease of humans and wildlife. As New Zealand remains free of mosquito-borne diseases of public health significance, the incursion triggered a series of eradication programmes. The event highlighted the importance of preventing the establishment of exotic mosquito species and the need for robust surveillance programmes.

At that time, border health mosquito surveillance in New Zealand focused on ports of entry, targeting container breeding species. Saltmarsh mosquitoes are predominantly groundwater breeders and are not usually associated with artificial or natural containers. The existing surveillance programmes did not really target saltmarsh species, though it was recognised they posed a significant threat of establishment in New Zealand.

Surveillance of saltmarsh habitat outside the SSM eradication zones was carried out from 1999 on a regional basis by public health unit staff, overseen by the Ministry of Health. In 2002, a review of the New Zealand Mosquito Surveillance Programme was commissioned by the Ministry of Health. The report recommended


***Map showing photograph and voice annotation linked to individual sampling site.***

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# Saltmarsh Surveillance Programme Continued

that saltmarsh surveillance be undertaken "towards a national uniformity of approach". In 2005, Southern Monitoring Services (SMS) Ltd was contracted by the Ministry of Health to develop and implement the NSP through New Zealand BioSecure (NZB), a division of SMS.

The key objectives of the NSP are to:

• Deliver a robust surveillance programme that provides consistent, best practice surveillance activities for the early detection of exotic saltmarsh mosquitoes throughout the country, and;

• Compile information of potential public health significance including detecting changes in the abundance and distribution of already established mosquito species and changes in habitat, to ensure a comprehensive database of saltmarsh habitat is maintained and able to be reported on.

NZB flew the entire New Zealand coastline as well as many offshore islands, collecting aerial digital imagery and GPS data for all potential saltmarsh habitat observed. This data was combined with previously identified saltmarsh habitat collected during the SSM eradication programmes as well as the Public Health Services saltmarsh sampling data, to produce a new saltmarsh habitat database for the entire country.

All potential saltmarsh habitats identified were visited and habitat suitability (for saltmarsh mosquito breeding) assessed and graded using parameters including; habitat quality, proximity to port, population density, previously positive for *Aedes camptorhynchus*, and climate suitability. Statistical-based modelling, recommended by NIWA, was used to provide a measure of confidence for the amount of surveillance activities to be undertaken at each site per year.

All ground surveillance activities are recorded using GPS units equipped with specialised GPS tracking software as well as digital cameras which record voice annotations with each image. Back at base, the field track data is able to be reviewed and stored, and digital photographs and voice annotations are linked to each track using viewing software to provide an ongoing historical record of each site (see figure).

More than 7000 larvae and almost 3000 adults were collected during 2006 for the NSP. One exotic incursion was detected in the Coromandel in May 2006 with 117 *Aedes camptorhynchus* larvae identified. An immediate delimiting survey of the area was undertaken and indicated that population numbers were relatively low compared to those of most previous SSM eradication programmes at the time of detection, and suggested that the active surveillance of the area through the NSP detected the population earlier than would have been otherwise, via complaints from the public.

During 2007, more than 13,000 larvae and 3000 adults were collected or captured and identified. There were no exotic saltmarsh mosquito specimens collected, however, unusual larval specimens were collected from the Chatham Islands. These are from a suspected new native species and an investigation into this find is under way (see inset for further details).

## New mosquito species on the Chatham Islands

A new species of mosquito has been discovered during routine surveillance on the Chatham Islands for exotic saltmarsh mosquitoes as part of the National Exotic Saltmarsh Mosquito Surveillance Programme. Three unusual larvae were collected in from swamp land in August 2007 by Regan Courtney of New Zealand BioSecure (NZB).

They were identified as an *Aedes* species, within the genus *Ochlerotatus* but do not match any of the currently described species. Australian experts were consulted and agreed the larvae appeared different.

***A specimen of the* Aedes *species found on the Chatham Islands in the last year.***
Photo: R Cane, SMS-NZB

Light traps were sent over and in October were deployed in two of the townships by Noel Watson from Hawke's Bay District Health Board and Chatham Islands Department of Conservation staff Ken Hunt and Antje Leseberg.

In March of this year, another routine trip was made to the Island by NZB as part of the NSP, but with a secondary objective to locate more specimens of the suspected new native species. Light traps were deployed in the area where the larvae were collected and sampling was undertaken for additional larvae.

No further larvae were collected as the area had little water for sampling following a dry summer.

However, both DOC and NZB staff successfully trapped adult specimens which also do not conform to already described species. Taxonomic descriptions of both life stages are now under way, but more specimens are required to prove the larvae and adults are the same species.

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# Hot topics in the tropics

**By Lynley Hayes**
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In May, seven Kiwis popped over the ditch for the 16th Australian Weeds Conference. The conference, held every two years in a different location, was in Cairns in tropical northern Queensland. Cairns is a very pleasant place to visit in winter, but I'm told summer is another matter – stinking hot with monsoonal rain, and you can't even freshen up with a dip in the sea because of the crocodiles and jellyfish, which perhaps explains the artificial beach next to the pool at my hotel.

The Australian Weeds Conference is organised by the Council of Australian Weed Societies (CAWS). The New Zealand Plant Protection Society has joined CAWS and will host the next conference in Christchurch in September 2010. The conference will hence be known as the Australasian Weeds Conference.

Weeds research has been in a state of flux in Australia since a bid for a third Weeds Co-operative Research Centre was unsuccessful. The previous two have been a great boost for Australian weeds research for 14 years, with the current one coming to an end on June 30. Its website, where you can find lots of great stuff, will remain operational but the URL will change from: www.weeds.crc.org.au to www.weedscrc.org.au.

Fortunately, at the 11th hour, the Australian government has promised to put up money for a National Weeds Centre ($15.3m over four years). No-one is quite sure how this is going to work or who is going to lead it yet, but we will watch developments with interest.

The most thought-provoking presentation for me, among a lot of "I have heard this all before", was a key note address given by Professor Paul Martin (University of New England's Australian Centre for Agriculture and Law). He analysed the content of the last two conferences and showed that we were focusing mainly on programmes, planning, and understanding natural systems, but hardly at all on people.

Professor Martin cautioned that we have the emphasis wrong and that we need to consider social science dimensions of pest management a lot more, as well as economics and law. When we ask people to control weeds we are often asking them to incur a lot of expense and trouble. We are relying on Government regulations to provide protection. We have too many rules and plans and too little effectiveness. Complexity leads to confusion and waste. Our current approach fails to provide incentives or market opportunities, and the rewards and risk associated with actions are not well aligned. The government, the environment, and those whose land use is harmed by weeds take the risk, not those who make decisions that allow or foster weed invasions.

Professor Martin made some suggestions as to how incentives and market approaches might be used. For example, if people want to bring in new plant species then they could be required to obtain insurance. If no-one is prepared to insure them then the market is saying the risk is too great and the importation doesn't happen. Another suggestion was to issue pest status certificates for all properties. If a poor rating impacted on a property's value this would be incentive for land owners to take action.

Perhaps we should organise a workshop or conference in New Zealand to explore how disciplines such as economics, law and social science could be used to strengthen pest management? How about this as a theme for NETS2009? Any takers?

As well as plenary sessions there were up to four concurrent sessions. Papers I attended that may be of interest to others included:

- Ross Gilbert (NSW Department of Primary Industry) spoke about a project where they are attempting to develop a mycoherbicide for alligator weed (*Alternanthera philoxeroides*). It is hoped the prototype can be trialled in the field this spring.
- Susan Timmins (Dept of Conservation) spoke about how to make weed management decisions when data about weeds impacts was lacking (e.g. available for only 10 out of 328 weed species managed by DOC). When a weed is low incidence it is best to control it and not wait to find out. For those that have got away abundance tends to drive pragmatic management decisions i.e., is it feasible to control the infestation, is this a high biodiversity site etc?
- Rachel McFadyen (CEO of CRC for Australian Weed Management) spoke about an economic study on the cost/benefit of biocontrol of weeds in Australia which found that for every $1 invested in biocontrol there has been $23 worth of benefits (unsuccessful programmes were included in this). She reminded us of the need to get figures on what weeds cost before biocontrol was attempted to assist with such analyses. Also, perhaps surprisingly, a small reduction in a major

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# Hot topics in the tropics Continued

widespread weed, e.g. 5% of lantana (*Lantana camara*) and blackberry (*Rubus fruticosis* agg.), can be worth a lot of money and may more than pay for the cost of the biocontrol programme. She concluded by saying that the study confirmed the best possible investment after prevention is biocontrol.

- Dane Panetta (Biosecurity Queensland) spoke about weed eradication programmes. He defined eradication as the elimination of every individual from an area where recolonisation was unlikely to occur. The steps are delimitation, containment and extirpation (active control and follow up). If you cannot delimit then you cannot contain, and investment in delimitation is often too low. You must be able to prevent reproduction in order to have any chance. If you can only detect a weed when it is flowering, then it will often be too late. He proposed some rules of thumb for deciding when an eradication programme should be abandoned: when delimitation is not achieved within 10 years and if the majority of infestations are still active after 10 years. It is important to revisit the feasibility of eradication, as often when the decision to eradicate is made delimitation has not been done.
- Perhaps in the future we may be able to use robots for weed control? A project is under way to see if it is possible to develop an "Autonomous Aerial Vehicle". This is basically a remote controlled helicopter which could fly around and detect and map aquatic weed infestations in inaccessible places, and possibly also be used to control them.

One day of the conference was dedicated to field trips. My field trip took us up onto the Atherton Tablelands, where a huge variety of crops are grown: coffee, a wide variety of fruit and even peanuts. We saw quite a bit of woolly nightshade (*Solanum mauritianum*) which no-one seemed too bothered about, as they consider it a successional species which is quickly overtaken by natives, apparently.

Just out of Cairns we stopped at the Barron River where volunteers are undertaking a revegetation project. For those of you who organise and encourage volunteers with such things here, be glad you do not have to warn your helpers about leeches, ticks, scrub itch, poisonous snakes and spiders, and crocodiles. Understandably at this point some volunteers change their minds about helping. The more faint-hearted can assist by growing the plants, and we visited a nursery that was dedicated to this task.

At Curtain Fig National Park we heard about a project in which the DNA of weeds is being studied. In dense forest it can be hard to find all the weeds that you need

***Lantana leaf sucking bug.***

***Lantana rust.***

***Biocontrol agents on display.*** Photos: Lynley Hayes

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# Hot topics in the tropics Continued

to remove, and by looking at the DNA of seedlings you can tell if you have got all the parent plants or not. We saw yet another white-flowered problem vine, turbina (*Turbina corymbosa*), a member of the *Convulvulaceae* which is having to be prevented from completely taking over.

The last stop was a farm to hear about biocontrol and herbicide approaches for lantana. Some of the biocontrol agents are finally beginning to show some promise. In particular, a rust (*Prospodium tuberculatum*) is beginning to heavily damage some plants now that the region has had some rain after a series of drought years since the rust was released. An application to release this rust in New Zealand may also be made in coming years.

Throughout the conference, climate change and the impacts of the rising costs of fuel were recurrent themes. Equine influenza was still a hot topic too, given the recent outbreak in Queensland, the extreme hardship and inconvenience it caused, and its subsequent successful eradication. The eradication effort was well planned and executed apparently. Lots of people got roped into help: for example, if you had GIS skills you helped with mapping; regulatory skills got you involved in permits; and if you were used to dealing with the public then you got put on the phones. One person suggested that it was much easier to deal with a disease outbreak than a weed! Let's hope we don't have to put that to the test here in New Zealand.

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# Sweeping it under the carpet – controlling eel grass with old carpet

**By Ben Minehan**
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In the year 2000, eel grass (*Vallisneria spiralis*) was positively identified for the first time growing in a South Island waterway. It was found in the Opawa Loop which flows through Blenheim. A sample was sent to Paul Champion at NIWA by staff from the Rivers and Drainage Section of the Marlborough District Council.

Council's Biosecurity Section sought advice from Paul on whether eradication of this invasive species could be attempted. Council's drain spraying contractor has already attempted control of the eel grass using Diquat gel but it was unsuccessful. Paul's advice was that it had to be pulled by hand if eradication was to be attempted. He did not believe that chemical control was an option.

In 2001, council biosecurity staff and several casual staff spent two weeks pulling the four known patches of eel grass in the Opawa Loop by hand using two punts. Twenty-one tonnes of eel grass was removed and disposed of at the local landfill.

Several months later a new infestation was found about a kilometre downstream. This infestation was about six metres deep and was impossible to pull from a punt.

The following February, divers from the Blenheim Dive Centre were contracted by the council to remove this infestation and after this they went back over the original four patches, which had been worked from the punt.

The option of putting down weed mat over the areas where eel grass was removed was discussed several times. Commercial weed mat is expensive and we knew that getting it to stay on the bottom would be difficult. Boats use the Opawa Loop regularly and we did not want any incidents attributed to weed mat.

Harry Neal has worked in the weed control industry for 38 years and was involved in the initial eel grass control work in 2000. He now manages the annual eel grass control work. He is very innovative and came up with an excellent control technique: "Why don't we use second-hand carpet". Harry had found the answer. We rang a carpet store in Blenheim and were told to help ourselves from their skip. Carpet is a natural product and it breaks down slowly. The oxygen given off by vegetative material also goes through it so it will not bulge like commercial weed mat.

***Pulling eel grass by hand from the Opawa Loop using boats moored over patch areas in February 2002.***
Photo: Marlborough District Council

Divers were employed to set the carpet over several areas where eel grass had been removed. The carpet is allowed to fill up with water over the area and then slowly sinks as it becomes heavy and waterlogged. It is pushed down and all the air bubbles are removed. It is then staked into the mud using pins made from reinforcing rod.

This innovative technique has proved to be very successful. The eel grass is suffocated and disappears.

Eel grass control for the 2008 season has now been completed. As in past years, we again had the help of the Blenheim Dive Centre. For the first time, no eel grass was found where we removed the original four patches in 2000. One hundred and fifty kilos was removed from a new patch discovered last year. No eel grass was found where a new patch was found last year and covered with carpet. Only three plants were found in the patch discovered in July 2000. Our ultimate goal is to eradicate eel grass from the Opawa Loop and, through the recycling of second-hand carpet destined for the landfill, we might just get there.

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# Weedbuster goes fishing

**Gemma Bradfield**
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Boneseed-bashing agent Keith Briden was nominated and judged as Canterbury Weedbusters "unsung hero" in May's 2008 awards.

Keith was nominated by the Canterbury NZBI branch for his ongoing tenacious efforts to control boneseed in and around the Sumner, Taylors Mistake and Godley Head areas.

A keen diver, Keith was not impressed when he went out one morning six years ago to find that he could not see how clear the water was because of shadows cast by boneseed plants. This was an early motivator that started Keith's vendetta against boneseed.

Initially he took to it with an axe! Since those first "axe" days, Keith says he has learnt more about the weed and having found out how bad it is, he doesn't want it in his landscape.

Keith's passion for "killing" boneseed has been ongoing. His tenacity in wanting to get every last plant hanging on to the cliffs or hiding in other hard-to-access places motivated him to design a new weapon of destruction! His enjoyment of fishing was his inspiration!

The Weedbusters judging panel was impressed with Keith's ingenuity in developing a "casting rod" sprayer.

Keith has developed a long-distance herbicide applicator, now 5m long, with thin hosing instead of nylon line and a battery-powered motorised spray unit instead of a spool.

Keith's tool enables him to spray plants up to 15m up a cliff and 20m down a cliff, thereby reducing the cost and time involved in other control options, such as abseiling, as well as reducing non-target kill.

***Keith Briden shows off his weedbusting former fishing rod which he has been using to deal to boneseed on Christchurch's eastern fringes.***

The Canterbury NZBI branch is proud of Keith's achievements and his "true Kiwi bloke ingenuity". We are looking forward to putting on a celebratory event in his honour in the coming month.

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BIOSECURITY NEW ZEALAND **News**

# Lake hornwort control a success

An inspection to monitor the effect of recent control work for the invasive aquatic weed hornwort (*Ceratophyllum demersum*) at Centennial Park Lake, Timaru, has revealed no visible signs of the weed.

Hornwort was identified in Centennial Park Lake and the north branch of the Otipua Stream in February 2006. A survey of the lake in January 2008 showed hornwort was still present, although none was found at any site surveyed outside of the lake.

In March, the aquatic herbicide endothall (Aquathol K/ Aquathol Super K) was applied to hornwort in the lake. Previous treatments with the herbicide diquat were not successful in eradicating hornwort from the lake.

The lake will be surveyed again in December, once the weather warms up and any remaining plants have had time to grow large enough to be identified. Regular monitoring of the lake will continue for the next five years. If no hornwort is found at the site during this time, hornwort will be declared eradicated from the lake.

Exclusion of hornwort from the South Island is the goal of MAFBNZ's National Interest Pest Response for hornwort.

For more information about the National Interest Pest Response programme go to www.biosecurity.govt.nz and follow the link on the front page.

# Didymo moves to pest management

From July 1 this year, the didymo long-term management (LTM) programme moves into MAFBNZ's Pest Management Group. Preparations are well under way for this.

The partnership structure and resources that are already in place for the long-term management of didymo will remain, but there will be some changes in the MAFBNZ personnel co-ordinating the programme. The MAFBNZ response group will continue to be on hand to respond should a didymo incursion occur in the North Island.

John Sanson, National Coordination Manager, and Corinna Bennett, Didymo LTM Coordinator, will be the key people in the Pest Management Group providing co-ordination support to the programme partners. Corinna joined MAFBNZ in early May and will take over from the current coordinator, Lesley Wilson, who leaves at the end of June.

# NPPA database goes live

Ministry of Agriculture and Forestry Biosecurity (MAFBNZ) New Zealand has developed a database to collect information, report on inspections and any enforcement carried out under the National Pest Plant Accord (NPPA).

The accord is a co-operative agreement between the Nursery and Garden Industry Association, regional councils and government departments with biosecurity responsibilities (primarily the MAFBNZ and the Department of Conservation).

All pest plants listed under the accord have been declared unwanted organisms under the Biosecurity Act 1993. This prevents their sale, propagation or distribution around the country. Regional councils undertake surveillance to prevent the commercial sale and/or distribution of these plants.

The NPPA database is a web application that allows inspectors to log-in from any computer connected to the internet, and enter data.

It allows regional staff to enter, view and report on inspections carried out within their region. MAFBNZ system administrators have the ability to view and report on all inspections nationally, to report back to stakeholders on how the NPPA is operating.

Regional staff may be either "super-users" (warranted by MAFBNZ) or "inspectors" (able to carry out inspections but not warranted for enforcement purposes).

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BIOSECURITY NEW ZEALAND **News** Continued

# Dredging for pest mussels complete in Tasman Bay

A dredging operation to reduce the threat of exotic brown mussels establishing in Tasman Bay has been wound up, with MAFBNZ satisfied any remaining risk is minimal.

The dredging was in response to the discovery of live mussels — mostly the New Zealand green-lipped mussel and the blue mussel, but also a small number of the invasive South African brown mussel (*Perna perna*) — on an area of seabed beneath where an oil rig was cleaned late last year.

Over recent weeks, two separate sites have been dredged by a scallop dredge, resulting in more than 50 tonnes of debris being pulled up and disposed of at a local landfill. The vast majority of the debris retrieved was material defouled from the oil rig, dead shell and sediment.

MAFBNZ Incursion Response Manager David Yard said, from the outset, the risk of the small number of brown mussels present establishing a population in the area was low.

MAFBNZ is satisfied it has undertaken the best possible remedial measures and is confident any risk of establishment of *P. perna* from the oil rig defouling has been reduced to a negligible level.

# Rabbit Co-ordination Group established

Over the last three years, regional councils have reported increases in rabbit populations in some areas of Marlborough, Canterbury and Otago. A "Rabbit Coordination Group" was formed last year as a forum to discuss the extent of the rabbit problem and to identify and discuss options for addressing rabbit-related issues.

The Rabbit Coordination Group comprises members from South Island regional councils, Federated Farmers, and the central government agencies — DOC, Land Information New Zealand, and MAF Biosecurity New Zealand. Landcare Research has also been invited to provide advice on an as-needed basis.

The group is currently updating rabbit communication information to ensure consistent information on rabbit management across New Zealand. It is also reviewing best-practice information and the availability and suitability of current training systems related to rabbit management. It is also establishing links with a similar group in Australia to share information about rabbit management.

For more information on the Rabbit Coordination Group, contact Ben Reddiex at MAF Biosecurity New Zealand — ben.reddiex@maf.govt.nz.

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