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Protect

New Zealand **Biosecurity** Institute

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Protect

Autumn 2007

Magazine of the New Zealand Biosecurity Institute

Contents

Editor's Note 4

NZBI Contacts 4

News from the Executive 5

'Capital Exposure' for biosecurity issues at NETS2007 6

News from the Branches 7

Member Profile: Dr Alastair Fairweather ...10

Member Profile: Neil Mickleson ...11

Bioeconomic models used to develop multiple mammal pest strategies Phil Cowan ...12

Free access to invasive species profiles and project reviews Shyama Pagad ...14

Biosecurity Summit: Thinking globally, acting locally… and globally Craig Davey ...17

Weedbusters and island biosecurity get thumbs up in Biodiversity Strategy review ...21

Biosecurity New Zealand News ...24

Biosecurity bits ...26

Courage and triumph (in the name of biosecurity) ...27

Editor's Note

Greetings!

I am really pleased to be taking over the editing role for *Protect*. My former lives include master's study, white-water safety kayaking, weeds surveillance and control, and five years in biosecurity and education roles in regional government. In the past three years I have been working in a consulting firm and setting up my own writing and communication business while chasing two young children!

I am really excited to take on the challenge to keep *Protect* relevant and responsive to you, the membership. Please contact me with your feedback, ideas for articles or contributions you'd like to make.

Thank you to Carolyn Lewis who has co-ordinated, edited, written for and generally strived to keep *Protect* one of the best institute magazines in the country. Good luck as you take on your next biosecurity challenge!

In this issue…

Climate change features in both the Biosecurity Summit synopsis and the review of the Biodiversity Strategy, highlighting the need to link biosecurity planning to climate change models. Shyama Pagad tells us that profiles of many invasives can be found on the freely accessible Global Invasive Species Database. Speakers at the Biosecurity Summit raised the importance of working with communities, while the Biodiversity Strategy review held up Weedbusters as one of the most important initiatives for weed management in the past five years. Landcare Research embarks on mammalian pest research with bioeconomic modelling and the new 'Biosecurity New Zealand News' column outlines the Whirinaki fire ants response, Nelson varroa decision and didymo campaign. There is also a new section to recognise and congratulate members on their achievements.

Thank you to all those who have contributed to this issue. Your making the time to communicate your ideas and projects helps to motivate and inform others and provides a valid tearoom break!

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New Zealand Biosecurity Institute

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News from the Executive

Changes to the Constitution

It has been several years since the NZBI Constitution was revised. Proposed amendments to the existing constitution have been circulated around the members via email; please make sure that you have a good look at them, and that they are discussed at upcoming branch AGMs. If any questions or comments arise, can you please get them back to the Executive well before the AGM at NETS2007 when the amendments will be voted on, so that this item doesn't take up the entire meeting!

Trial Membership

There has been ongoing confusion among those offered trial membership at NETS as to what their status is. From NETS2007 onwards, those registering as non-members will be given the option of becoming trial members rather than having this imposed on them.

NETS2007

NETS2007 in Wellington is just around the corner! The organising committee reports that this event is coming together well with some great keynote speakers and fieldtrips lined up. More speakers are needed, however, so please contact Neil Mickleson **Neil.Mickleson@horizons.govt.nz**, chair of the committee, if you would like to give a paper.

Protect

We welcome Kirsten Crawford as the new editor of *Protect*! Kirsten has a background in biosecurity issues, both with local government and with community groups, and will be a great asset to the NZBI in this role.

To GST or not to GST?

With membership now hovering around the 500 mark and the conference becoming a bigger (and more costly) event every year, the issue of whether or not to register the NZBI for GST has arisen. Advice will be sought on this matter and discussion through the membership will ensue in the coming months – watch this space!

New members

The NZBI warmly welcomes the following new members:

Louise Cook..... Environment Canterbury
Lyn Davison ..... DOC
Martin Cleland .....Nelson City Council
Cas Vanderwoude..... Flybusters AntiAnts
Joanna Meys..... Auckland Regional Council
Holly Cox..... Auckland Regional Council
Mark Mitchell ..... Auckland Regional Council

Carolyn Lewis
cl.sb@xtra.co.nz

'Capital Exposure' for biosecurity issues

NETS 07 'Capital Exposure' is set to attract about 300 delegates. The seminar will provide an opportunity for participants to listen to and discuss a wide-range of biosecurity and biodiversity topics, including local, regional, national and international issues.

While New Zealand's biosecurity systems are considered one of the most robust in the world, the risks to our environment are constantly changing. We face new challenges on a daily basis to protect our economic, environmental, social and cultural values.

Confirmed speakers to date include: Minister of Biosecurity Jim Anderton; Chair of Greater Wellington Ian Buchanan; Assistant Director-General of Biosecurity New Zealand Dr Barry O'Neil; and Joe Starinchak, Outreach Coordinator for the US Fish & Wildlife Service Branch of Invasive Species and the National Aquatic Nuisance Species Task Force in the United States.

Field trips will take delegates to Matiu Somes Island, the Karori Sanctuary/Otari Wiltons Bush Reserve and of course, the ever-popular clay bird shoot.

There will be an open public session the Friday afternoon to allow people from care groups, universities, colleges and schools to participate in discussion and meet people who they would not normally associate with in the biosecurity field.

The seminar programme will be finalised by the end of March so watch www.biosecurity.org.nz and the NZBI email newsletter for details.

Michelle Carson
NETS 2007 Committee
Michelle.Carson@gw.govt.nz

NETS 2007

the New Zealand Biosecurity Institute National Education and Training Seminar
25 – 27 July 2007, Wellington, New Zealand

Be prepared to be blown away by the topics, keynotes, and guestspeakers that will broaden your knowledge and understanding of the vast field that is biosecurity.

This is a conference for everyone who values optimising ecological health and preserving our natural heritage. So take the challenge and make plans now to come to NETS 2007. Capitalise on this opportunity to be part of the vanguard to protect New Zealand's natural resources.

The venue will be a superb conference and functions centre offering the very best standards to facilitate the aims of education, business and networking and is situated near Wellington's vibrant and picturesque waterfront.

Experience the atmosphere of Wellington with its fantastic parks, diverse coastline, steep hills, city culture, bustling seaport and international airport. Encounter the wilder side with its blustery southerlies and crashing seas. You will be made very welcome at NETS 2007.

For further information contact the Conference Organisers
Ali Howard, Nelson Tourism Services, E: ali@nzdirect.co.nz, P: 03 546 6338
or Neil Mickleson, E: Neil.Mickleson@horizons.govt.nz

News from the Branches

Northland/Auckland Branch at Bream Head

The Northland/Auckland meeting was held at the McLeod Bay Hall, Whangarei Heads, in November. After the formalities were over we had three very informative talks by DOC staff on the Bream Head Scenic Reserve. The reserve is 536 ha in size and regarded as one of the top 20 coastal forest reserves in the country, containing the largest and most significant stand of coastal pohutukawa-broadleaf forest in Northland which supports a diversity of rare flora and fauna. There are at least 40 threatened and regionally significant species in the reserve including, kukupa (native pigeon), North Island brown kiwi and visiting kaka, bellbird and red-crowned kakariki from the nearby Hen and Chicken islands. Long tailed bats are also present along with pupuharakeke (flax snails), and the Auckland green gecko. Plant life is diverse including species such as *Celmisia adamsii* var. *rugulosa*, *Fuchia procumbens*, parapara, large-leaved milk tree and native angelica.

Bream Head coastal forest.

There are many Landcare groups operating in the Whangarei Heads area as well as the Bream Head Conservation Trust which has Sir Ed Hillary as its patron. There has been some restoration work carried out on coastal fringe areas around from Uruqharts Bay with blanket spraying of glyphosate over kikuyu grass followed by manuka planting at 1m spacings plus a few cabbage trees, harakeke and pohutukawa.

Animal pests controlled include, possums, mustelids, rats, cats, hedgehogs, rabbits and dogs. It is hoped a predator proof fence will eventually be placed around the reserve to reduce the amount of toxins used and also enable sensitive species to be released, such as tuatara and saddleback. Toxins used include cholecalciferol and potassium cyanide in bait bags. Predator traps used include DOC 200 in double set box tunnels designed to exclude non target species, guide target species and provide public safety. Trials have shown salted rabbit meat works best in the traps followed by egg then fresh rabbit meat. The salted meat, if placed on a peg to allow air movement, will last for about one month and ants and wasps don't seem to be attracted to the bait compared to fresh meat. If the traps are being checked every few days fresh rabbit meat is used but salted meat is preferred for traps checked at greater intervals.

Pest plants on the reserve include wild ginger, elaeagnus, moth plant, pampas and smilax. Landcare groups are helping with the weed control efforts and

DOC 200 double set predator trap with catch.

Clearly signed predator trap box.

News from the Branches Continued

Busby Head walk.

a helicopter has been used to apply herbicides to pampas using a handgun. Hopefully the smilax rust will get to the reserve soon as smilax is growing on the sea side of the reserve on coastal cliffs making it very difficult to spray. Landcare Research confirmed that smilax rust had reached Whatiriri, about half way between Whangarei and Dargaville on 30 November 06.

The field trip included a walk around Busby Head (western end of Bream Head) with the DOC Kiwi Team.

Greg Hoskins
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Central North Island

Our last meeting was held in late September in Taranaki, generously hosted by the team at Stratford in the palatial headquarters of the Taranaki RC. Following the meeting, the team proudly put their new database through its paces. Very impressive it was too – especially since they had a printer in their vehicles so they could print Notices on the spot!

If I remember rightly that long ago (I hope those involved will forgive the tardiness of this report) there was a good showing of weedos from Bay of Plenty, Waikato, Taranaki, some folks from New Plymouth City Council and even some neighbours from Horizons MW who joined us for the field trip on the second day. In the afternoon we visited the Lake Rotokare Reserve, a magic oasis of native forest surrounding a lake. Management of the reserve is undertaken in conjunction with the local community and a comprehensive pest animal programme is under way (though we did spy a sheep disappearing into the scrub!). A pest excluder fence is in the pipeline for the boundary — a huge and expensive exercise for those involved. The day concluded with an in-depth survey of Stratford watering holes.

The following day saw us all driving through the endless expanse of dairy farms (not a weed out of place of course — except for the hedges of pampas and boxthorn) to the south coast. DOC's Barry Ovenden led us on an exploration of the spectacular sea cliffs with their unique assemblages of coastal herbs — and *Gunnera tinctoria*. Great swathes of the cliffs for many kilometres are smothered in dense infestations of this extraordinary weed which is posing a serious threat to the survival of the herb fields. It's obviously thriving in the damp climate and not at all bothered by salt spray. Barry is attacking them in some of the more sensitive areas, no easy task. Evidently herbicide trials have suggested that the best cure for this plant is triclopyr,

Central North Island Branch members surveying the swaths of* gunnera *on the Taranaki coastal cliffs where unfortunately it is thriving in spite of the salt spray.

News from the Branches Continued

best applied in spring before the leaves become too leathery.

And there was more — many of the stream sides and riverbanks flowing off the southern flanks of Mt Taranaki are similarly clothed in huge stands of old-man gunnera. The girth and length of some of the stems was quite awesome. These are TRC's challenge. Plants have even been found up the mountain in the park itself. Evidently gunnera was not a problem here until its population exploded in the last decade or two. This should be a salutary warning to those of us in damper parts of the country!

Thanks to the TRC team who organised the events — a great learning experience for us all.

Tim Senior
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Canterbury Branch

November 10 saw the Canterbury Branch of the NZBI get together for an end-of-year meeting followed by a social dinner in Christchurch city.

Anna Paltridge (DOC) updated members with the latest developments of the 2006/07 didymo programme.

Rob Phillips (ECan) talked about the Varroa Pest Management Strategy, which was developed in 2004 with support from beekeepers and regional/unitary councils, to keep varroa out of the South Island. Currently, four control chemicals are under consideration since the manufacturer withdrew Fripronil from use on the hives. Rob also talked about the controversial issue of Crown funding for RPMS work on Crown land. There is a budget bid by DOC and LINZ to increase the level of RPMS control on their land.

Graham Burnip talked about the recent fire ant incursion at Whirinaki, near Napier. It may have been possible that the ants had come in on materials imported from the USA. A $5 million surveillance programme will take place over the next three years using bait pots along with aerial baiting. As with nearly all biosecurity incursions, Graham said it was difficult to weigh up whether to spend the available budget on wider surveillance or on treating the area of infestation.

The Christchurch NZBI held METS (Mini Education Training Seminar) on Friday, March 9, during production of this issue of *Protect*. Look out in the next issue for a write-up.

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Member Profile: Dr Alastair Fairweather

Former lives: After leaving University I worked as a technician for Ecology Division, DSIR, for a couple of years. I was involved in the population biology study of possums on farmland in Hawkes Bay under Dr Bob Brockie.

In 1987, I went on my OE and ended up staying overseas for 9½ years. For much of this time I worked as a wildlife ranger for the Forestry Commission in Scotland, managing deer in plantations. However, at the same time I completed a PhD at Aberdeen University on management of roe deer in upland plantations, using the data I collected as a wildlife ranger.

I returned to New Zealand in 1997 and got a job with DOC as a Technical Support Officer (Animal Pests) in the Waikato Conservancy. I moved across to my current position in DOC in 2000.

Dr Alastair Fairweather

Current key projects: I am currently working on improving information transfer in relation to animal pests and control techniques within DOC;

Writing best practice for sustained animal pest control; and

How vertebrate pesticides are used within DOC, which includes undertaking risk assessments of pesticide uses, setting standards relating to how the pesticides are used on public conservation lands, and determining research needs related to pesticide uses.

Important issues facing biosecurity management in the future: Good national co-ordination and decision making when there is a biosecurity incursion — Biosecurity New Zealand is still feeling its way with this, but I am sure things will improve over time.

Motivators for biosecurity involvement: A belief that New Zealand's environment and unique native species need to be protected.

Dr Alastair Fairweather
Senior Technical Support Officer – Research, Development & Improvement Division, Department of Conservation.
afairweather@doc.govt.nz; (07) 858 0013

Member Profile: Neil Mickleson

Former and double lives: My background is eclectic with years sheep and beef farming in the central North Island, working as a professional musician through the 70s and early 80s both here in New Zealand and overseas, and at present I have a position as professional pie taster and from time to time, sadly, dishwasher, in my wife's catering company.

Neil Mickleson

Changes in biosecurity role: I started as a plant pest officer covering the southern part of the central volcanic plateau, which included the native tussock grasslands of the Army Training Ground at Waiouru, the Desert Road area and the strong hill country farming properties of the Taihape region. Then I took up a position as an environmental management officer for Horizons RC in Palmerston North. My position has changed somewhat over the years. Once pest plant management had pretty much one focus — that was pest plants growing on agricultural productive land, full stop. Thankfully in more recent times that focus has changed towards a balance of our conservation values and community initiatives, changing behaviours and focusing on sustaining and enhancing the environment we live in. This has given opportunity to get some real go-forward initiatives happening.

Current key projects: The Manawatu Gorge Biodiversity Implementation Plan 2006-16 has brought all stakeholders associated with the Manawatu Gorge together to preserve, sustain and enhance the biodiversity, scenic and recreational values of this unique part of our region.

The Palmerston North City Weed Awareness Campaign (Weedbusters) is a pilot project aimed at managing old mans beard within the urban area of Palmerston North with a focus on weed awareness — "helping you to help yourself". The programme has become a permanent part of HRC pest plant management for the city. In the future other pest plants such as moth plant, banana passionfruit will be included.

The Massey Hill Restoration Project 2006-11 is a joint venture between Palmerston North City Council, Massey University, Fergusson Hall of Residence and Horizons RC. The project will see the restoration of the green belt that divides Massey Hill in Palmerston North from the Manawatu River flats, including planting more than 12,000 native trees.

Motivators for biosecurity involvement: It's certainly a great time to be working in environmental management, making a difference, looking after tomorrow's environment today — you can't get much better than that!

[Neil is also the chair of the organising committee for NETS2007 to be held in Wellington, on July 25-27 this year. Thanks Neil and team we look forward to another great conference!]

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Bioeconomic models used to develop multiple mammal pest control strategies

Dr Phil Cowan
Science Leader, Pest Control Technologies, Landcare Research
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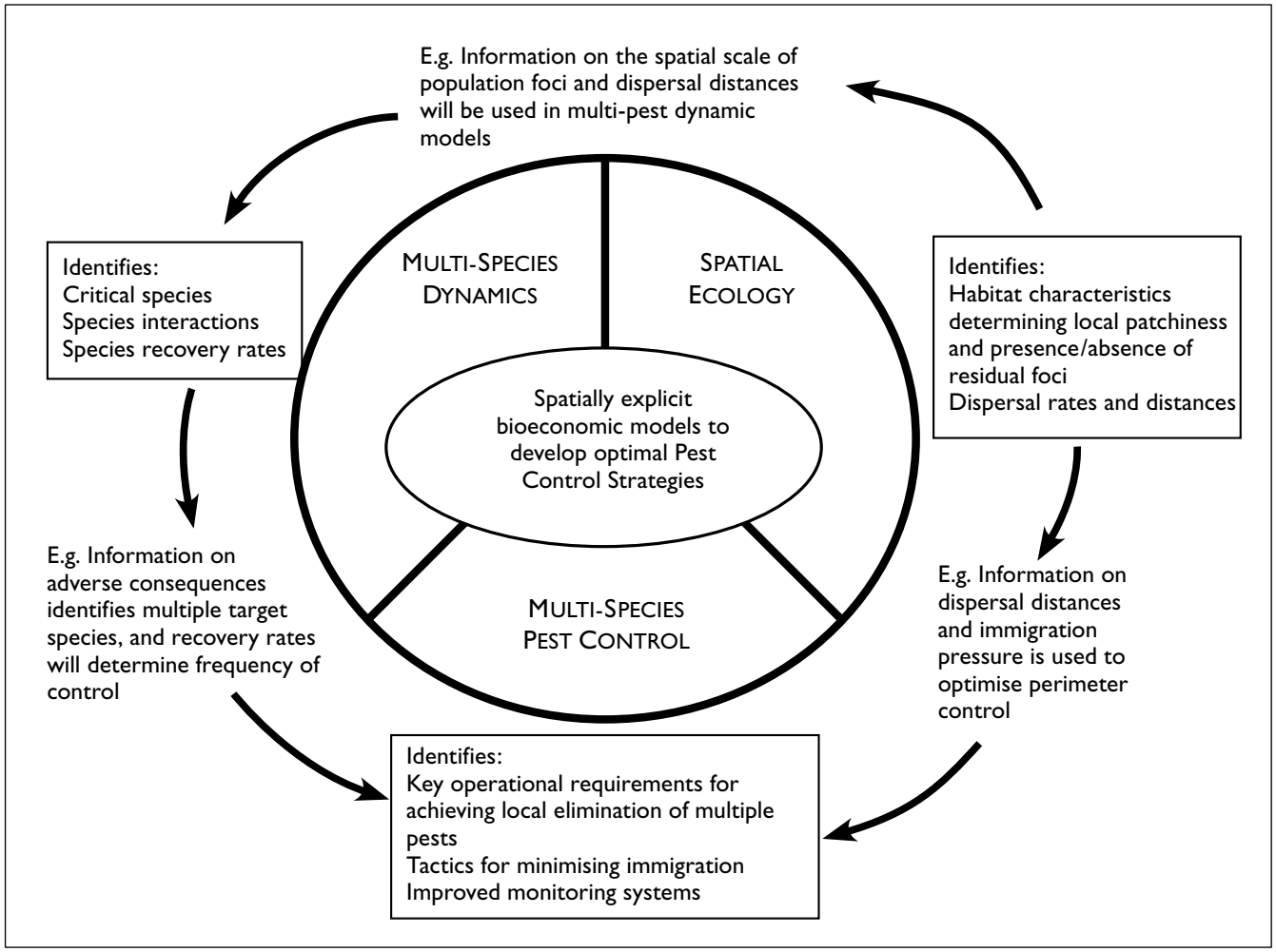
Effective management of vertebrate pests in New Zealand, and internationally, requires the development of effective strategies and tactics (tools). To help develop these systems, the Foundation for Research, Science and Technology has funded Landcare Research to conduct three interrelated projects. Two of the projects look at improving strategies, i.e. where, when, and/or what species to control, and the third project focuses on improved tactics e.g. cost-effective solutions.

All three projects focus on possums, rats and stoats as the highest priority pests. The results from the three projects will be used in bioeconomic models to develop the most cost-effective strategies for dealing with multiple pests over a range of spatial scales.

The three projects are jointly supported by the Department of Conservation, regional councils and the Animal Health Board through both direct co-funding and

The integration of three FRST pest mammal projects.



Models used to develop control strategies Continued

in-kind support, and by local iwi (Ngati Raukawa, Tuhoe).

Multi-Species Dynamics

Contact: Wendy Ruscoe,
ruscoew@landcareresearch.co.nz

Examines how different mammal pest species interact when one or other changes in abundance, mainly as a result of single species control. The information gathered from this will ensure;
(1) there are no perverse outcomes (for example an increase in rats that pose a greater threat to biodiversity than the possums initially controlled),
(2) that only the critical pest species are targeted, and
(3) that the timing and frequency of control can be optimised by taking account of any time-lags in population responses and differences in species-specific rates of recovery. Most of the field sites are in Kaimai and Urewera ranges.

Spatial Ecology

Contact Andrea Byrom,
byroma@landcareresearch.co.nz

Examines how possum, rat and stoat distributions are influenced by "local" habitat characteristics, how this influences population recovery rates, and how dispersal and immigration influence the size of control buffers and control strategies. This information will enable control strategies to be optimised by
(1) providing information on how control can be better aligned with the natural spatial patchiness of pest populations,
(2) providing information on where pre-emptive control might be targeted to prevent predicted population increases, and
(3) enabling the costs of low-frequency buffer control to be compared with the alternative high frequency in-situ control. This project is being conducted in the Orongorongo Valley near Wellington, and at shared sites with Wendy Ruscoe's Multiple Pest Dynamics Project.

Multi-Species Pest Control

Contact Bruce Warburton,
warburtonb@landcareresearch.co.nz

Focuses on new and improved tools for detecting, monitoring and controlling possums, rats and stoats, to achieve local eradication of all three species and develop perimeter control strategies that minimise subsequent immigration. This research is being carried out in the Hauhungaroa Ranges and the Whirinaki and Mokaihaha forests. Results from this project will enable pests to be controlled over large areas at lower costs, with risks to non-target species, environmental contamination, and welfare being minimised.

Free access to invasive species profiles and project reviews

Compiled by
Shyama Pagad
for the ISSG Species Information,
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www.issg.org/database

The Global Invasive Database is a free, online public resource of authoritative information about invasive alien species. The database aims to increase public awareness about invasives and to facilitate effective prevention and management activities by disseminating specialist's knowledge and experience globally. It was developed as part of the global initiative on invasive species led by the Global Invasive Species Programme (GISP) and is managed by the Invasive Species Specialist Group (ISSG). The database contains information on the ecology, impacts, distribution and pathways of more than 420 invasive species, along with the contact details of experts that can offer further advice, and most importantly, information on prevention and management options.

Work on the database began with the "100 of the world's worst alien invasive species". Experts nominated these 100 species over a number of workshops and meetings. Species were selected for the list according to two criteria: their serious impact on biological diversity and/or human activities, and their illustration of important issues surrounding biological invasion. To ensure the inclusion of a wide variety of examples, only one species from each genus was selected. There are many other invasive alien species, in addition to those on this list of examples. Absence from the list does not imply that a species poses a lesser threat.

Since then the database has been funded by various regional and national entities to create profiles on invasive species that impact their country or region. Species profiles are powerful awareness-raising tools.

A low-resolution screen shot of the new interface of the global invasive species database launched last year. The database contains contact details of species-specific experts.

Free access to profiles and reviews Continued

They can tell you about the harm an invasive species has done elsewhere, how it is spread, its uses, and how it is being controlled. You can see records from overseas alongside your local records, giving you a sense of the link between the rest of the world and work being carried out locally. You can even phone or email an expert using the contact details provided in each profile.

The information on the database is robust and kept current largely due to the generous contribution of invasive species information by ISSG members and invasive species specialists and programmes all over the world. The 1100 unique visitors (75,000 hits per day) who consult the database every day reflect the importance of their work.

The database is useful for natural resource managers, extension agents, environmental and biodiversity specialists, quarantine and border control personnel, educators and students, and other individuals and organisations concerned with the environment.

Two new initiatives are being launched on the database: the Global Register of Invasive Species (GRIS) and the Global Management Project Register (GMPR)

The Global Register of Invasive Species (GRIS) will identify all organisms that negatively impact biodiversity by accessing and analysing checklists generated by national and regional collection and observation databanks around the world, as well as information not formally published elsewhere. The register will reveal those species that have been identified as invasive and those that impact the most regions. Access to the original source of information, along with metadata describing the definitions used, criteria for inclusion and geographical scope will be provided.

Knowing which species are invasive, how they are spread and where they occur facilitates prevention activities. “Only one factor has consistently high correlation with invasiveness: whether or not the species is invasive elsewhere” (Wittenberg & Cock, 2001). National and

IUCN Invasive Species Specialist Group

The World Conservation Union (IUCN), created in 1948, is the world’s largest environmental knowledge network. Its mission is to influence, encourage and assist societies throughout the world to conserve the integrity and diversity of nature and to ensure that any use of natural resources is equitable and ecologically sustainable.

National and regional committees are formed within countries and regions to assist with the union’s work. Networks of volunteer scientists and experts form six commissions, which provide conservation knowledge, guidance, policy and technical advice, and carry out parts of the union’s work.

The six commissions are:
Species Survival Commission (SSC)
World Commission on Protected Areas (WCPA)
Commission on Environmental Law (CEL)
Commission on Education and Communication (CEC)
Commission on Environmental, Economic and Social Policy (CEESP)
Commission on Ecosystem Management (CEM)
ISSG

The Invasive Species Specialist Group (ISSG) was established in 1993 and is part of the Species Survival Commission under the IUCN. ISSG has about 182 voluntary members from more than 40 countries. It is chaired by Professor Mick Clout and has regional leaders in North America, Europe and South Asia. The mission of ISSG is to reduce threats to natural ecosystems and the native species they contain, by increasing awareness of alien invasions and of ways to prevent, control or eradicate them. ISSG’s scope is global. It is based in the University of Auckland’s Tamaki Campus.

The ISSG provides technical and policy advice and facilitates communication and sharing of information about invasive species. The aim is to encourage invasive species issues into the mainstream and to address them at an ecosystem level. ISSG assists in developing strategies or legislation and on risk assessments prior to introductions, as well as on facilitating awareness raising and community involvement.

The ISSG and IUCN strongly believe that information related to biodiversity conservation must be easily and freely available to empower communities and other stakeholders.

- Resources available from the ISSG include:

Aliens - bi-annual newsletter

Aliens-L list server: allows users to freely seek and share information on invasive alien species and related issues. To subscribe, send an email to: aliens-l-join@indaba.iucn.org; Subject: (none is required).

See **www.issg.org** for more information and to subscribe to these resources.

Free access to profiles and reviews Continued

regional implementation agencies for the International Plant Protection Convention (IPPC) have expressed a need to be able to access information on the invasiveness of alien species anywhere in the world.

The Global Management Project Register (GMPR) will be a free online resource containing information about prevention, eradication, control, containment and mitigation activities. The records will be structured to provide information on target and non-target species, factors relevant to the success or failure of projects, methods used, etc.

Providing easy access to this information will help those contemplating invasive species management projects to learn from mistakes made by others, to understand important issues and to consult with experienced operators before embarking on their projects. It will also help to identify critical issues illustrated by different projects, common causes of project failures or cost-benefit analysis. Each record in the GMPR will include links to relevant documentation such as feasibility studies, planning details and technical reports (where available) and a link to the appropriate profile in the Global Invasive Species Database.

References:

Wittenberg R., Cock M.J.W. (editors) 2001. *Invasive Alien Species: A Toolkit of Best Prevention and Management Practices*, CAB International, Wallingford, Oxon, UK

Biosecurity Summit: Thinking globally, acting locally… and globally

By Craig Davey
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The theme of last November's Biosecurity Summit — 'Thinking globally – acting locally" was modified to "Thinking globally – acting locally and globally" by Professor Alistair Woodward in his talk about climate change influences on biosecurity. Indeed this title better represented the mix of topics and presenters, many of whom were involved with biosecurity projects overseas giving the summit an international flavour.

The summit included presentations around human health risks, border protection, businesses' response to biosecurity threats, and a variety of other interesting papers culminating with the release of the draft Biosecurity Science Strategy. The draft strategy has three goals: to provide clear research direction for biosecurity science, now and into the future; to ensure we have the capability and the resources for the timely and effective delivery of biosecurity science; and to ensure science is responsive to biosecurity needs and priorities and that uptake is timely and effective. Public consultation closed late in February this year and Biosecurity New Zealand is now analysing the results.

Biosecurity Future Challenges

The summit started with The Honourable Jim Anderton spelling out the importance of primary industry to New Zealand (~20% of GDP) justifying the effort and huge sums of money we expend on biosecurity. The costs of some of these incursions have been significant (see table below) but compare this to "the legacies of other established pests such as gorse and possums".

Cost centre	Approx. costs
Asian gypsy moth	$65M
Southern saltmarsh mosquito	$11M
Varroa	$11M
Didymo, Styella	$12M
TB	$30M
Surveillance	$21M pa
Enforcement	$4M pa

Table comparing surveillance and enforcement with cost of some known incursions.

He also qualified that to protect our primary industry from biosecurity threats from trading partners (such as the risk associated with imported honey) we require robust and transparent science-based decisions. We are a small fish in a big pond and given that 95% of this industry is exported, jeopardising free trade is an issue. Mr Anderton also outlined a future direction for MAF of risk profiling and risk minimisation for border screening. The future is going to bring continued challenges because we live in a "limited resources – unlimited threats" environment. Asking scientists to provide a list of the top 200 threats potentially devastating to New Zealand and capable of travelling here, didymo was not included! Mr Anderton finished by saying that biosecurity needs everyone to buy into New Zealand's pristine habitat. New Zealanders can no longer claim ignorance.

Murray Sherwin, Director General of Ministry of Agriculture and Forestry (MAF), spoke next echoing some of what Mr Anderton outlined in his talk. Murray recapped goals from the previous year and touched on achievements from 2006. Some of those mentioned were didymo being handed to regional councils, sea squirt linking to the aquatic industry, the varroa decision, honey imports, and a look at sea container issues. He highlighted that border biosecurity was a continual battle, with 30 priority incursions currently on the books.

Murray then focused his attention on the future and the challenges that will continue to keep biosecurity at the forefront. Climate change is a challenge recently highlighted by the Stern report. Another is increasing globalisation which has led to increases in people visiting, sea containers and used vehicle imports. Risk is further compounded by the increase in volume and increase in the diversity of ports where cargo is generated such as in the Asian area.

Due to the ever increasing trade and tourist burden on the biosecurity system, MAF is looking at targeting

Thinking globally, acting locally… and globally Continued

expenditure. With 100% screening occurring under ever increasing volumes, MAF is asking the question, are these expenses sustainable? This may mean managing risk by reducing screening on freight from ports known to be less risk and more checking of freight from high-risk ports. This has to be weighed against the statement, "there is no such thing as no risk". Murray then posed the question; "How can we become more preventative than responsive?" He answered; "We can't keep doing things the same!" Some areas flagged for change were to look at emergent risks, dealing with risks offshore, risk profiling and intelligence, risk management, and focusing on behaviour change. This would mean a need to look outward, find new solutions, and take responsibility.

Avian Influenza

As one of the team managing avian influenza in Hong Kong, Professor Ken Shortridge's message was surveillance, surveillance, surveillance. Working in southern China, which has been the epicentre for the emergence of pandemic influenza viruses, Ken was at the frontline of outbreak decision-making. Not only did his team have to contend with surveillance of the Hong Kong markets, but the thousands of small-scale duck farms in southern China, which are the primary instigators of avian influenza. One of the methods of surveillance was the use of sentinel birds at potential hotspots (think the chirping mine-shaft canary) and also sentinel physicians reporting any suspicious illness. Ken's talk highlighted key points that are important in any incursion process; the importance of surveillance, a good decision-making process, communication, knowing your enemy, and being able to track backwards to get the full story to give understanding of the vectors and the particular mode of spread.

Continuing on the avian flu theme, Michael Brooks, Executive Director of the Poultry Industry Association of New Zealand, presented his industry's response to this threat. The industry has every reason to be concerned about images of birds being slaughtered across the front pages of national newspapers. Poultry is now the most popular meat eaten in New Zealand and threats to this industry will have expensive ramifications. When one wild bird was confirmed to have the flu in Europe, Italian poultry sales fell 70%. Michael painted a very good picture of his industry's ability to inform themselves, up-skill their members, and adopt biosecurity measures. New Zealand is fortunate to be free of the three worst poultry diseases and as such is vigorously defending its title as having the highest levels of biosecurity worldwide. Some factors that keep the New Zealand industry protected are: that no raw meat or table eggs are imported; ducks do not migrate; and MAF surveys migratory birds, with 2000 samples turning up negative. The poultry industry has done a magnificent job informing its members about the importance of early reporting of symptoms, of establishing databases that link to Agribase and establishing a robust communication plan in the case of a suspected outbreak.

For information on New Zealand's preparedness for avian influenza see www.moh.govt.nz.

Border controls and surveillance

They are small and they can hide in virtually anything from ipods to shoes, to frozen chickens, and Simon O'Conner, Secretariat of the Pacific Community dislikes them. In his presentation titled "How to stop the global ant trade", Simon showed that ants could occur across all trade and travel sectors. The challenges we face with ants are numerous — ants are difficult to exclude from freight, if an ant is seen in freight, identification can be difficult or time consuming to confirm what species it is and once established, detecting them is incredibly difficult with a lag phase of 5-10 years before infestations are noticed, and consequently eradication becomes technically challenging. In his work for the Pacific Ant Prevention Programme (PAPP), Simon is trying to unravel some of these challenges. In conjunction with Biosecurity New Zealand, results from trials in Papua New Guinea and Solomon Islands to reduce high ant contamination rates of sea containers have indicated that contamination could almost be stopped if simple hygiene measures were implemented at ports of origin. New Zealand incursions are most likely to have originated from the USA, though as mentioned our increasing trade with Asia is another risk factor. The future hope is to have widespread offshore treatment of freight consignments.

Craig Phillips, Science Leader for Better Border Biosecurity (B3) spoke about this new science initiative that involves collaboration between Crop & Food Research, AgResearch, HortResearch, Scion, Lincoln University, MAF, DOC, ERMA and the Forest Biosecurity Research Council. B3's aim is to improve border control through science. Social science is also being employed because of the need to facilitate technology adoption and behaviour change.

At the heart of good border management is surveillance. Fiona Thomson-Carter, General Manager of Environmental Health for ESR gave a presentation on the use of forensics in biosecurity. Fiona started by comparing microbiological detection of micro-organisms as being equivalent to the use of *CSI*-type forensics at a crime scene. It is now possible to undertake border

Thinking globally, acting locally… and globally Continued

screening of microbes and pathogens. The Biosecurity Strategy 2003 underlined that the biosecurity system includes protecting human health, as well as those threats of animals and plants.

Industry response to incursions

One large component of the summit was industries' response to established biosecurity incursions. Gordon Hosking, principal of Hoskings Forestry Ltd, made a presentation about a Northern Hemisphere stem malformation disease, *Nectria fuckliana*, ravaging southern forests. The disease has only been identified since 1996 and has the potential to cost the region $1.5 billion over the next 30 years. The discovery and following identification led to the formation of the Forest Health Research Collaborative, a group made up of the major forest growers in the region. A strategic plan was developed as well as the Nectria Working Group and a Nectria workshop was held. At every stage the initiative has been led by the industry partnership and their appointed project manager. This "industry-led" process has been critical to the success of the programme so far. By working under consensus decision making and being able to offer in-kind contributions, a focus on operational objectives has been maintained.

Biosecurity and trade implications

Willie van Huesdan, President of Custom Brokers and Freight Forwarders Federation of New Zealand, in his talk said that the biggest threat New Zealand faced was not Al Queda but foot and mouth and other trade-impacting incursions. New Zealand currently has 500,000 containers arriving each year. Willie shed light on three factors that provided challenges and also opportunities for trade biosecurity. In 1956 the world's first container ship was launched. Now there are 18 million containers worldwide and by 2009 this is expected to increase by 50%. The standardisation of containers has allowed trade to increase with the challenge now being whether we can adopt common international biosecurity regimes to match the expansion. New technologies based on "what's in the box" technology will improve efficiencies. Globalisation presents the greatest risk. One of the greatest opportunities is in the rationalisation of global shipping companies and the reduction in the number of ports visited by larger vessels. Maersk has 40% of New Zealand's trade and is rationalising its visits to two ports, one in each the North and South islands. This has the potential to concentrate biosecurity exposure but also has the potential to create bottlenecks with large freight volumes often without the room or time to have all of it cleared.

This point was also raised by Graeme Marshall, Commercial Manager for the Port of Tauranga. Tauranga processes 10 million tonnes of freight a year including garbage from freighters and 47 cruise liners that has to be frozen on site then shipped to Auckland for disposal. He made the point that ports operate with a space deficit and anything that interrupts the flow of freight off the site is bad for business, this includes MAF clearance. Graeme also asked for better integration in the sector stating that Biosecurity New Zealand

Oil in, timber out at Northport in Northland. Can entry points for incoming ships be rationalised to decrease biosecurity exposure?
Photo: Coastline Consultants Ltd

Thinking globally, acting locally… and globally Continued

made the policy but MAF Qual implemented it, and sometimes this meant the customer had to interact with two agencies.

Continuing on the theme about balancing of biosecurity and trade, Barry O 'Neil, Assistant Director General of Biosecurity New Zealand and President of World Animal Health Organisation (OIE), talked about the OIE objective of ensuring transparent animal health reporting between the 167 member countries. Free trade is about trust, assurances and the development of credibility and as such, the OIE produces science-based standards to safeguard trade of animals and animal products. These standards are designed to be trade enabling. OIE members need to report to OIE directly when occurrences of disease are noticed, the OIE then disseminates this information. Since 1995 240 trade concerns have been encountered. In 2005 BSE accounted for 33% and avian influenza 14%.

Public perceptions

On the final day Professor Julian Cribb took a look at public perceptions of the risk in biosecurity and science. Julian began by taking the audience on a journey through mankind's history to show that humans were inherent risk takers but that this was balanced against our survival imperative wherein we wish to be able to analyse and manage risk. As part of this precautionary world view the public mistrust of science and questioning its ethics — who owns and thus controls it? — pose a growing impediment to the successful adoption of new technologies, especially given that many of yesterday's technologies are now today's problems, for example dioxin. Julian made the point that the public want to be part of the innovation and that we are now entering the "dawn of the knowledge democracy". The presentation explored how improved dialogue between science and society could help meet biosecurity challenges.

New Zealand biosecurity management

Barry O'Neil gave an honest report on Biosecurity New Zealand for the previous year and what is around the corner. "Progress with some pains" was how Barry described Biosecurity New Zealand's approach to the effort put into aligning central government with regional councils. The year has seen incursions placing a major demand on resources with 100 investigations under way with some still unknown entities. Biosecurity New Zealand has improved its capability but there has not always been an acceptance of its approaches. Some of the huge expectations about what is able to be delivered, for example eradication of certain pests, have led to some difficulties. Biosecurity New Zealand has to be more focused on communication and social marketing to better handle these situations.

The year has brought many successes both external and internal. External success include: proving BSE freedom; eradicating painted apple moth; releasing the new National Plant Pest Accord; market access wins for cherries and stone fruits. Future focus will be around the pre-border/border area and increasing use of systems approaches and to facilitate this, better integration between Biosecurity New Zealand and the MAF Quarantine Service will be discussed.

Lindsay McKenzie, General Manager for Environment Southland followed Barry's talk and also gave an honest opinion of where he felt regional councils stood in relation to central government. Lindsay said time had moved on from when the biosecurity strategy was formulated. The strategy was primarily aimed at the protection of production, economy and health and with a secondary function for protecting biodiversity. It also provided for pest control though this was dependant on land tenure and there was an issue around the large amount of government land that may not be funded to fulfil the objectives in regional pest strategies. Lindsay believed the statute fell short of delivering the new goals faced by regional councils and as the core of the strategy was based on relationships (i.e. Biosecurity New Zealand — regional councils — public) the foundation needed to be right to have effective outcomes.

The summit closed with Murray Sherwin summing up and looking forward to the challenges that would impact all of us.

Weedbusters and island pest work get thumbs up in Biodiversity Strategy review

An independent review of the New Zealand Biodiversity Strategy: Our Chance to Turn the Tide Whakakohukihukitia Te Tai Roroku Ki Te Tai Oranga (February 2000) has identified Weedbusters as one of the most important biosecurity programmes developed in the past five years. Major successes also include animal pest eradication on islands, progress controlling terrestrial weeds, greater knowledge of marine species and better co-ordination in biosecurity management.

Dr Bruce Clarkson, Director Centre for Biodiversity and Ecology Research at the University of Waikato, and Dr Wren Green, Director, EcoLogic Conservation Consultants, carried out a review of five years of implementation of the strategy and highlighted major successes and challenges as well as priorities for the future. They recommend a comprehensive monitoring system of species and landscapes, completion of the national guidelines for biodiversity, linkages to climate policy and a number of specific biosecurity-related priorities.

The exerts below are taken from the review synthesis report as they directly relate to biosecurity goals and projects. A copy of the synthesis report and full assessment can be found at www.doc.govt.nz/upload/documents/conservation/nzbs-report.pdf

Authors of the independent review of the New Zealand Biodiversity Strategy: Our Chance to Turn the Tide Whakakohukihukitia Te Tai Roroku Ki Te Tai Oranga, are Dr Wren Green, Director of EcoLogic Conservation Consultants, left, and Dr Bruce Clarkson, Director of the Centre for Biodiversity and Ecology Research at the University of Waikato, right.

Achievements in terrestrial biodiversity

There has been substantial progress in controlling terrestrial weeds that we attribute to several factors, starting with the development by DOC of their strategic approach to managing weeds. This has clearly benefited from the package funds which now support 60% of the weed control on 770,000 ha (10%) of the lands administered by the Department.

Two years ago the "Weedbusters" programme was launched. We believe this is one of the most important developments in the past five years as it capitalises on the synergies between DOC, regional and district councils and community voluntary efforts. It is well established throughout New Zealand and has contributed to a close alignment of weed control programmes between DOC, regional councils, the unitary authorities and other organisations. It will need ongoing support to reach its full potential, however, recognising that new weeds are emerging at the rate of two to three per year from the pool of more than 24,000 introduced species of higher plants already in New Zealand.

Proudly part of WEEDBUSTERS
Working together to protect New Zealand
www.weedbusters.org.nz

Biodiversity Strategy reviewed Continued

Many of the Biodiversity Condition Fund projects were for weed control on private land where weeds spread with urbanization and peri-urban development.

Improved control techniques and package funding made possible the impressive successes in eradicating rodents from priority islands including Campbell Island (11,000 ha). Ten other priority islands have remained rodent free. The result has been significant gains for indigenous species and ecosystems, including many threatened species.

Improved operational efficiencies have held control costs for aerial poisoning operations, despite general inflationary pressures. Predator-proof fencing has been another significant advance for intensive pest management, but requires very high initial investments that make it more suited to public and private sector initiatives. Regional councils spent about $28M on weed and animal pest control in 2003/04, which are well aligned with DOC priorities. What has been difficult to assess is the overall outcome for indigenous biodiversity, given the patchy nature of monitoring programmes across agencies. There is also little data that specifically relates to the period covered by the first five years of the strategy.

We need to comment on the gains in the context of the overall size of the task. There has been success in pest control and eradication for high value areas such as offshore islands, sanctuaries and mainland islands, but these represent about 2.7% (213,600 ha) of the lands administered by DOC. A further 32% of these lands received less intensive management and about 55% of the lands administered by DOC where management would also be beneficial received only limited or no management. We are not in a position to judge if the current efforts in pest and weed management will be sufficient to assure long-term protection of indigenous species and to minimise the risks of extinction of threatened species. Existing control techniques could be effectively applied over a larger proportion of conservation lands if funding permitted.

Significant gains in the future will require a suite of new tools and technologies that can take the ability to control pests to levels well above small incremental improvements. Contrary to the expectation of the strategy there has been no significant or continuing increase of research effort to provide these tools.

Achievements in freshwater biodiversity

There have been gains with the eradication of pest fish in some regions, particularly in the Nelson/Marlborough regions which may stop their spread into the South Island. The first national survey of pest fish distribution has been completed which suggests that most pest fish are probably distributed more widely than they were five years ago. New control techniques are needed. Despite control initiatives, freshwater weeds have spread in several regions, often linked with declines in water quality and exacerbated by poor public understanding of the importance of preventative action.

The management of freshwater pests and weeds will require greater resourcing, clearer accountabilities and more public engagement than it has received so far. At the same time there are indigenous freshwater species, including eels, that are threatened and will need active management. There are other agency accountabilities regarding freshwater, including leadership responsibilities, which need to be clarified.

Achievements in marine biodiversity

Package funding helped substantially to redress our poor knowledge of what introduced and potentially invasive marine species are already present in New Zealand's ports and harbours. More than 170 "new" species were identified; an unknown number may become invasive. A shortage of marine taxonomists is delaying completion of this work. Ongoing surveys of priority ports will be essential, and is already under way, as will a stronger emphasis on prevention if biosecurity risks in the marine environment are to be reduced.

Biosecurity management

There has been substantial progress in the last five years towards the objective of improving the co-ordination of biosecurity management. The Biosecurity Strategy for New Zealand was completed in 2003, followed in 2004 by a re-organisation of the biosecurity agencies. This led to the creation of Biosecurity New Zealand within MAF in November 2004. MAF is now responsible for delivering more co-ordinated development of biosecurity policy, clearer accountabilities, better integration of central and regional government roles and a more standardized approach to risk assessment. There is stakeholder support for the initiatives that have already been taken by Biosecurity New Zealand, including a greater emphasis on developing more effective partnerships.

Risk assessment and risk management

An integrated risk management framework for the importation of new organisms has been developed. There is a better awareness within MAF of risks to indigenous biodiversity. Border control work has been strengthened and has improved accordingly. Some important new surveillance programmes are now in place, such as the National Invasive Ant Surveillance programme. Surveillance initiatives need to continue to

Biodiversity Strategy reviewed Continued

respond to increasing risks to indigenous biodiversity.

The package allocation in this area was very modest, relative to annual MAF expenditure for pre-border and border activities. More input is needed to review old Import Health Standards, including the additional consideration of risks to indigenous biosecurity, and to continue the risk assessment work on priority exotic species. The biosecurity research strategy is overdue for completion. Another action in the Biodiversity Strategy awaiting completion is the finalisation and implementation of a set of pest indicators and monitoring techniques that will be useful in assessing the performance and accountabilities of biosecurity agencies.

Managing risks from new organisms and potential pest species

In retrospect, the fortuitous discovery and subsequent eradication of a nest of the red imported fire ant (*Solenopsis invicta*) from Auckland Airport in 2001 was potentially the "lucky break" of the century for biosecurity agencies (and for biodiversity). At the time, it highlighted the need to for more research into pathways and wider border surveillance systems to address risks to indigenous biodiversity, a requirement that has been recognised by Biosecurity New Zealand.

Responsibilities for managing and monitoring new organisms, including genetically modified organisms, are now clear. We are concerned, however, that the rigorous and costly systems set in place by ERMA for the importation of new organisms may be acting as a perverse incentive that has encouraged people to bring in new species, particularly plants, by illegal means. We welcome the current efforts to address these concerns.

Useful initiatives with respect to developing voluntary codes of compliance with industry associations should help to reduce escapes from captivity of potential pest species and reduce the inadvertent spread of pest species. Public awareness of biosecurity risks has risen, although aerial spray operations require more effective relationships to be built with communities or adverse reactions may undermine future political support.

Gains, future priorities and linkages

Future needs for the biosecurity system relate to response capacity to potential new problems and dealing with existing pests and weeds. While a greater effort on improving pre-border systems is likely to reduce some risks, the reality is that incursions will probably become more frequent, given the drivers of growing volumes of trade, more trading partners and increasing tourist numbers. New detection technologies and ongoing improvements in surveillance co-ordination will become increasingly important. Improved surveillance is particularly relevant and cost-effective for responding to the appearance and spread of weeds that will establish from the existing pool of introduced plants. Hence the relevance of the Weedbusters approach.

We also note the linkages to climate change impacts. Scientific reviews suggest that rising temperatures will improve conditions for some existing pests by, for example, increasing the likelihood that some exotic plants will escape the current climatic constraints that limit their spread and impact. Improved surveillance technologies, assessing climate change impacts and improved understandings of potential pest impacts will all require additional research expenditure.

One future priority of growing importance is what is currently referred to as "internal border issues". This refers to the cost-effective opportunities to limit the deliberate and accidental spread of pest species within New Zealand and is relevant to terrestrial, freshwater and marine risks. For example, little advantage is currently taken of the unique opportunities to prevent or limit the spread of pest animals and plants across Cook Strait. This could be highly cost-effective by slowing or eliminating the spread of pests such as varroa bee mite, clover weevil, freshwater weeds and pest fish between the North and South islands.

Biosecurity New Zealand News

Thank you to Biosecurity New Zealand staff for putting together the first Biosecurity New Zealand News column. This issue highlights the didymo social marketing campaign, varroa mite in Nelson and fire ant response in Whirinaki. If you are interested in a particular Biosecurity New Zealand project, let the *Protect* Editor know.

Check Clean Dry summer campaign winds down

Biosecurity New Zealand's summer Check Clean Dry didymo (*Didymosphenia geminata*) campaign is winding down. So far there has been very positive feedback from our partners, regional councils, Fish and Game and DOC.

The campaign demonstrated a change in approach to biosecurity social marketing, based on social marketing best practice (as adopted by Land Transport New Zealand, Ministry of Health campaigns on smoking and mental illness discrimination, and SPARC's "Push Play"), and draws upon in-depth formative research conducted with high-risk waterways users.

The campaign featured a range of promotional materials, including trigger spray bottles, information packs (pamphlet, sticker, and pen), sunscreen blisters, jelly beans, posters and river signage. These were designed to help motivate people to Check Clean Dry over the summer.

Biosecurity New Zealand

Biosecurity staff have also been busy at the interisland ferries handing out information to vehicle and foot passengers, particularly to travellers with boats, fishing gear, kayaks and other aquatic gear.

Biosecurity New Zealand provided a small community fund available to regional councils to develop local Check, Clean, Dry initiatives. Encouraging reports from these initiatives are coming in and will provide valuable feedback when designing future programmes.

A formal assessment of the effectiveness of the summer campaign is being carried out and will also help to plan the approach for next summer and beyond.

Look out for the Biosecurity New Zealand Check, Clean Dry tent, flags and banners at water-based events around the country, including the Auckland Boat Show and the Maadi Cup rowing regatta. These resources are available to any stakeholder organisation wanting to attend events and spread the Check, Clean Dry message.

Nelson varroa mite eradication ceases in Nelson

The varroa mite (*Varroa destructor*) elimination attempt in the Nelson area officially ceased on January 26 following a Biosecurity New Zealand decision made in consultation with the beekeeping industry.

Varroa was first detected in apiaries in Nelson in June 2006 and further surveillance revealed infestations at Tapawera and Pelorus. Biosecurity New Zealand Senior Policy Analyst Paul Bolger says the varroa programme will now focus on slowing the spread of the mite outside of the known infested areas around Nelson, Tapawera, and Pelorus.

The decision to attempt elimination was made in August last year after the beekeeping industry asked the Government to reconsider the original decision made by Biosecurity New Zealand to use control measures and education to manage the mite. The elimination attempt involved moving all managed hives out of the known infested areas to enable poisoning of the wild bee population to take place.

Paul Bolger says an established varroa population had not been eliminated anywhere else in the world before so there was never any guarantee the attempt would be successful.

"The finds outside the known infested areas around Nelson, increased the area to be poisoned by four times and would have also meant moving thousands of managed hives out of the area. The expanded poisoning area also included some rugged terrain that would have been difficult to lay bait stations in. These factors along with the ever-present risk of human-assisted spread made the eradication attempt unfeasible," says Paul.

He says the planned spring poisoning attempt was delayed because the manufacturer of the preferred chemical, Fipronil, wouldn't allow Biosecurity New Zealand to use the product for poisoning bees. Paul believes the spread is likely to have happened even if poisoning had taken place in spring.

"Spread appears to be linked to the horticultural region at the western end of the infested area. Even if a poison had been available, it was never intended that the horticultural area would be poisoned in the spring, due to the need to retain bees for crop pollination.

"Humans are the biggest risk when it comes to spreading varroa — usually inadvertently spread by beekeepers moving hives and equipment. We have movement controls in place but these can't provide a 100% guarantee varroa won't spread."

Paul says the decision to discontinue the elimination programme was disappointing after the hard work put in by the beekeeping industry and Biosecurity New Zealand staff.

"However, we remain committed to working closely with industry to help slow the spread of varroa to the rest of the South Island and to give beekeepers information on how to manage varroa when they need it."

Exerpted from *Biosecurity Surveillance*, March 2007

Red imported fire ant response in Whirinaki

The red imported fire ant (*Solenopsis invicta*) eradication programme has entered the busy season. Biosecurity New Zealand has maintained a surveillance programme in the area since the discovery of a single nest at Whirinaki in June 2006, and no further fire ants have been found to date. However, while the lack of further sightings has been good news, there is no room for complacency as the hot, dry summer conditions in Hawke's Bay provide ideal

Biosecurity New Zealand News Continued

conditions for the fire ants to flourish.

Investigation and Diagnostic Centre (IDC) staff and contractors conducted a nest extraction, as part of the initial response, and an assessment of the size and age of the nest showed the nest was around 2-2½ years old and contained approximately 30,000 workers. Based on these findings IDC staff determined that reproductive flights could have occurred during each of the previous two summers, and queens could have established new nests up to 2km from the nest site — a scary scenario!

Spring surveillance started in late October using attractant baits (protein and sugar). This was followed up by insecticidal ant baits applied in December 2006 and a further round of surveillance and bait application is scheduled for March and April 2007.

A restricted zone, extending 2km out from the original nest site, remains in place to reduce the potential spread of fire ant colonies via contaminated material and, as at 11 January 2007, Biosecurity New Zealand contractor AgriQuality had approved 288 permits to safely move risk items in or out of the restricted zone. Further strategies put in place include a project designed to trace risk movements of goods in and out of the controlled area (since January 2003) which will help identify where the nest may have arisen from and where it may have dispersed to within New Zealand.

A three-year surveillance programme has also been approved which would give time for any presently small nests to grow to a detectable size over the period. If no further nests are found within three years then the eradication programme can be declared successful.

IDC incursion investigators and entomologists developed the operational response strategy after considering expert advice from the Technical Advisory Group (TAG), overseas fire ant experts, and experience gained in eradicating two earlier fire ant incursions. NIWA wind plume modelling analysis was used to determine further high-risk sites in the Whirinaki area for surveillance or treatment.

Effective and robust initial response actions are vital to ensure this highly invasive species does not establish in New Zealand. Efforts to eradicate fire ants are continuing in Australia and Taiwan, while control measures are ongoing in heavily infested areas of the USA.

Keeping red imported fire ants out of New Zealand will continue to be a priority. Any sightings can be reported directly to the Biosecurity New Zealand hotline on 0800 80 99 66.

Red imported fire ants

For identification and comparison pictures see: www.antweb.org or www.padil.gov.au

Red imported fire ants are considered the worst invasive ant species worldwide because of the harmful effects they have on people, infrastructure, agriculture, flora and fauna and recreational activities. The ants are opportunistic feeders and can destroy arable and horticultural crops together with reptiles, birds and small mammals. They also adversely impact agriculture through damage to equipment and disruption to field operations when workers are stung. They are attracted to, and damage, outdoor electrical equipment such as traffic lights and telegraph poles. They can even undermine roads! People, stock, wildlife and domestic pets are readily stung if they disturb a nest.

A red imported fire ant.
Photo: Biosecurity New Zealand

The ants are quite small, varying from 2 to 6mm in length, predominantly reddish-brown in colour.

Nests vary in shape and size, but all have a honeycomb-like internal structure. Can be around 40cm high dome shaped mounds, but sometimes no mound at all.

Nests usually found in open areas — lawns, pastures, roadsides, school grounds, golf courses, recreation areas etc

Nests can contain more than 500,000 workers!

Source: Biosecurity New Zealand and www.issg.org

First International Pacific Invasive Ant Conference

May 23-25, 2007, Hawai'i

Focusing on the Pacific Rim and Pacific Island countries and territories. Aims to create a network of shared information to help combat the problem of invasive ant species.

For further information Carol E. Russell, Carol.E.Russell@aphis.usda.gov

Biosecurity Bits

Biosecurity bits media round up is back. The past couple of months has seen didymo from all angles, ants on attack, a snakehead mystery solved, sea squirt delaying the latest diving craze and the shocking story of a 'self sacrificed' possum.

Great Barrier Island is under attack from Argentine ants, and DOC and Auckland Regional Council are calling for community help to lay baits for these voracious pests. A programme has been in place for sometime to eradicate Argentine ants on Tiritiri Matangi.

Pest control operators called in to fumigate a luxury yacht from the Caribbean recently called in Biosecurity New Zealand after finding an infestation of fire ants, also a potential threat to human health and native flora and fauna. One can only imagine how uncomfortable that leg of the voyage had been for the occupants of the boat!

Varroa-free hives have been targeted by thieves whom beekeepers think are supplying orchards further north. One beekeeper alone has lost 200 hives in the heist and has now employed a security firm to microdot his hives for future identification. In the meantime, Biosecurity New Zealand has found itself defending its policy on honey imports in court; beekeepers arguing that importing honey that contains *Paenibacillus alvei* should be assessed through ERMA's processes as a new organism, whereas Biosecurity New Zealand argues that because it is a "passenger" organism they have the final say on it.

Didymo never seems to leave the headlines now, and anglers continue to be targeted as a primary means of spread with confirmed finds in two more river systems in the South Island. However, Biosecurity New Zealand's hard-hitting new campaign to raise awareness of the threat of this invasive algae has been slammed by Tourism New Zealand as threatening to put travellers off coming here.

While the safety of 1080 is under review, possums in Queenstown seem to have found their own unique way to get themselves killed. A recent fire close to the Remarkables skifield was blamed on a possum catching alight while running along a power line, then falling into tussock underneath. It took 12 hours to bring the blaze under control.

Illegally imported iguanas, emerald monitors, and a rare blue tree monitor were seized by MAF in raids on a breeder and a pet shop. The breeder argued that she was being persecuted by MAF; she had been selling them for up to $5000 each through a website and claimed that these reptiles had been present since the early 1980s, predating existing legislation.

It's not your usual find on a suburban footpath. A severed snakehead found by three children in Napier caused a herp-alert which was resolved when a neighbour rang Biosecurity New Zealand's 0800 number to advise that the head was part of an old trophy that had been thrown out the weekend before.

Seventy-two "message in a bottle" novelty jars were recalled after it was found that the brightly coloured "beads" they contained were actually seeds of the toxic plant rosary pea (*Abrus precatorius*) that had slipped through customs. The concern was that children might eat the seeds thinking they were lollies.

A sea squirt (*Styela clava*) infestation delayed the sinking of the newest dive attraction at the Bay of Islands. The frigate Canterbury was officially signed over to a charitable trust for the princely sum of $1, a miniscule fraction of the cost of the process needed to clean the marine pest sea squirt off its hull.

An Alexandra woman had a nasty shock when she spotted an Australian redback spider in her backyard. Turns out that they have been established in Otago for some time, but this is the first find in this area. Experts think that young spiders might have blown from an existing colony at Wanaka, or arrived with imported goods.

The pest fish perch may hold the key to beating algal blooms in lakes, say Waikato University researchers. They've been clearing perch out of the lower lake of Wellington's Karori Wildlife Sanctuary as part of studies into the relationship between perch and algae; it seems that the perch are so numerous that they eat most of the microscopic zooplankton that would usually keep the blue-green algae in check. It is estimated that there are 30,000 perch in the 2.5ha lake where the study is being conducted.

Ensis senior scientist Dr Magesan has surprised even himself at the extremely high levels of nitrate leaching from gorse into Rotorua lakes. His research with Environment Bay of Plenty shows samples taken from gorse area on one farm being 16ppm (parts per million) compared with 1ppm for the control area on the same land. Nitrates are one of the major nutrients that damage waterways, stimulating weed growth and algal blooms. The researchers hope to expand their work to the rest of the country and investigate methods for destroying gorse and slowing its growth.

Field officers may no longer have to carry large amounts of smelly catfood on wasp control projects as a HortResearch team continues to develop "environmentally friendly" scents for ant and wasp bait over the next two years. Argentine ants are partial to cooked yolk mixed with sugar syrup while fire ants prefer silkworm pupae and sugar syrup.

United Future (allied to the Outdoor Recreation Party) wants the Government to recoil from its position on eradicating feral deer and pigs on DOC land. "While we have to consider their effect on indigenous biodiversity we must also take into consideration those (people) whose recreational and traditional interests are associated with these animals" United Future MP Gordon Copeland said. The party suggests eradication is not achievable, that these species have a "rightful" place in New Zealand and is proposing single species regional management plans.

Courage and triumph (in the name of biosecurity)

We all know that working in Biosecurity can, at times, be extremely challenging, very time pressured, requiring constant innovation, and trial and error. There are hundreds of motivated, innovative and knowledgeable individuals and teams working to achieve biosecurity gains throughout the country. This is a new column to recognise the great work contributed by these folk.
Have you or your colleagues been nominated for or received awards/ commendations for your work? Or is there an award coming up needs advertising? Contact the Editor and let us know.

Congratulations to John Parkes from Landcare Research who has been awarded the Graeme Caughley Medal from the Australasian Wildlife Management Society for his outstanding contributions to wildlife management. The award citation notes his analytical and strategic abilities as well as his common sense practical approach. John has published more than 200 papers and reports. Working with colleagues in New Zealand and internationally he has planned and monitored the eradication of feral pigs on Santa Cruz Island (California), rabbits on Clarion Island (Mexico), rodents on Lord Howe Island and mynah birds on Magaia Island (Cook Islands). In New Zealand he has carried out leading research on how single species control can have un-favourable impacts that may benefit other introduced pest species. This research now plays a strong role in pest ecology in New Zealand.

John Parkes shows off his Graeme Caughley Medal.

Acknowledgments to Landcare Research

Congratulations to the MAF Quarantine Services team for dragging themselves out in the name of Biosecurity! From left, they were Miss Meat Packer, Miss Poison Ivy and Miss Forbidden Fruit, MAF's official representatives at Auckland's Big Gay Out on February 11 at Coyle Park in Point Chevalier. MAFQS staff have attended the annual event for the last four years. The three drag queens handed out bananas and postcards reminding festival goers not to bring fruit or other biosecurity risk items into New Zealand from mardi gras or anywhere else in the world. Big Gay Out is one of Auckland's largest festivals with last year's event attracting 13,000 people! An innovative example of how to boldly connect with your audience and keep light hearted while still getting the message across.

Acknowledgements to *QuarantineWorks* February 2007

Courage and triumph (in the name of biosecurity) Continued

Council of Australasian Weed Societies Inc.

2007 Most Weed-Wise Nursery in New Zealand

SELECTION CRITERIA

Anyone can nominate a retail nursery or garden centre for these awards – nursery owners or staff could nominate themselves. Please see the selection criteria below.

Key Dates

- Nominations are to be with The Secretary of the New Zealand Plant Protection Society (PO Box 11 094, Hastings) by 30 April.
- New Zealand winners will be decided by 31 May and announced in June.
- The National Winners for Australia and New Zealand will be announced on 1 September.

Send **three copies** of the nomination to the Secretary by 30 April 2007.

Information to be included:

1. Name and contact details of the nominating person or organisation**.**
2. The name of the retail nursery or garden centre nominated, address, other contact details and any other relevant information such as website**.**
3. A written assessment of the nursery. The assessment should be no more than three A4 pages and cover:

   3.1 A summary of the species of plants sold/not sold, for example:
   - Has the nursery voluntarily removed invasive species, especially popular species sold by other nurseries?
   - Does the nursery sell examples of local native flora?

   3.2 The standard of labelling of plants e.g. Do the plants have the correct scientific name? Are potentially invasive species labelled as such?
   - Regarding points 3.1 and 3.2, it is expected the nursery will **not** be selling legislated species (those on the national pest plant accord, plants targeted by local regional Councils, etc.).

   3.3 Whether the nursery is accredited with any industry associations(s) and, if so, what that accreditation means. e.g. freedom of specified pathogens, use of local native flora, plans to deal with water run-off, minimisation of pesticide use etc.