New Zealand Biosecurity Institute

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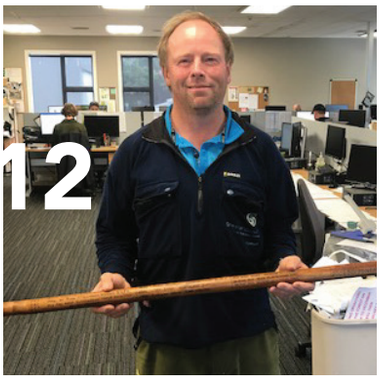

inside

New Zealand Biosecurity Institute

Working together to ensure New Zealand is protected from the adverse impacts of invasive species

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

A stroll through our history

This issue chiefly celebrates the achievements of Institute members, in particular our own Legacy Award winners which were presented at NETS2018 and also those associated with The NZ Biosecurity Awards announced in November.

President Darion Embling notes that Institute members are connected in some way with all projects that were recognised.

I have been collating and arranging the digitisation of all historical copies of Protect Magazine and its predecessor publications, as well as conference proceedings. Both go back to the early 1970's.

A 'stroll through those streets' is sure to make readers lift an eyebrow to see how much we have changed as an industry.

There is also an aspect of the more things change the more they stay the same.

What is pleasing to me is how much of a valuable archive the collection is. References to the challenges of metrification and the new 'silver bullet' of glysophate are just two.

This collection will be of great value, not only to the Institute and industry but also the entire country.

Chris Macann,
Editor

This is what 75 issues of Protect Magazine dating back to 1972 look like

The cost of housekeeping, our winners and our history

The Executive met in Wellington on November 14.

Presently we are investigating the most cost and time effective way of managing the treasurer and membership role. Rebecca Kemp is presently continuing these roles until an effective way is found to manage these activities.

Darion Embling, President

We are presently preparing a job description for members interested in helping with this role. Contracting services for the Treasurer role is still on the table, however, it has been concluded that the Institute cannot currently afford this. The Executive will soon contact all branches with a proposal to review the cost of membership.

Organising is going well for NETS2019 with the call for papers going out soon. The conference will be held on 24-26th July, 2019 at Trinity Wharf, Tauranga. **There will be a focus on sustainability** during the conference, with a move away from plastic where possible.

President Darion Embling continues to be involved with the NZ Biosecurity Forum and with the Biosecurity Awards.

The NZ Biosecurity Forum is based around the Biosecurity 2025, Biosecurity New Zealand initiative. Darion reports that a huge amount of time and effort has been invested in this initiative by hundreds of people and a plan has now been formed and implementation will soon be underway.

Darion noted that **Institute members are generally intertwined with the NZ Biosecurity Award winners** in some way.

The Executive produced a press release congratulating the NZ Biosecurity Awards recipients, noting in particular the achievement of member Greg Corbett who received the Minister's Award for Biosecurity.

The project to digitise all copies of Protect Magazine is proceeding well. All copies will be available on the website. So far 75 issues have been digitised in addition to those already stored on the website.

Most Issues of Protect or its predecessors, dating back to 1975 have been digitised, and most conference proceedings dating back to 1972 have also been digitised.

The NZBI Executive will next meet by teleconference in March 2019.

The NZBI Executive

Fight them in the water and fight them on the land

The New Zealand Biosecurity Institute prepared this media release to support the valuable work of all members over the summer.

"Help prevent the spread of pests on land and at sea."

That's the message of key biosecurity sector interest group, the New Zealand Biosecurity Institute.

The Institute is the membership organisation for anyone involved in protecting NZ from invasive species.

Its members work for any government, or private organisation or club with an interest in biosecurity.

The Institute is asking all New Zealanders to help its members prevent the spread of unwanted animals, plants and diseases this holiday season.

President Darion Embling said the work of his members will be helped if people take a few simple steps to make sure they and their outdoor equipment are free of unwanted pests.

"Our main request is that people check and clean their gear before leaving and returning from the outdoors this summer."

He said this includes coastal waterways as well in order to prevent certain marine pests from moving and becoming established in other parts of the coast.

"There have been significant achievements in preventing the spread of marine pests this year.

"Local and central government and private organisations have worked well together this year to establish agreements to prevent the spread of marine pests.

"Holiday time is when achievements so far will be most at risk."

Mr Embling said notable agreements have been established in the cherished coastal areas at the top of the South and North Islands and in Fiordland.

The Institute has a few basic "please do's" for people this summer:

- check, clean, and dry all equipment that has been in contact with waterways
- clean boots and outdoor equipment thoroughly and check for seeds, and dirt that could contain invisible threats
- dispose of garden waste or aquarium contents in the compost or at an appropriate waste management site to prevent the spread of weeds into the wild.
- desex pets given as presents, and prevent them from roaming

Mr Embling said every year Institute members spend hundreds of hours controlling or managing the risks to the economy and the environment of the effects of introduced pests.

"This is work which costs the country hundreds of millions of dollars each year through control, research and border control budgets. This money is coming out of all New Zealanders' pockets," he said.

Shining the light on innovation

The National Education and Training Seminars (NETS2018)

Jono Underwood

More than 200 delegates turned up to share ideas at NETS2018 in Nelson from July 25-27. Protect editor Chris Macann gives his version of events.

Harness the enthusiasm was the message from Jono Underwood in his welcome from the hosts and the organising committee. As with all NETS gatherings that's again what everyone did.

It was nice to see so many new faces this year. The well supported theme was Shining the light on Innovation.

The theme was evident most presentations.

President Darion Embling reminded one-and-all the biosecurity industry is constantly changing.

"It is crucial that we focus on innovation, in order to continue to tackle our old pesty foes and also keep ahead of the new ones. Innovation also helps give direction to the passionate people, you and I, within the biosecurity system."

He said it was **all about people collaborating, trying new ideas and making the occasional mistakes.**

The conference was joined by biosecurity Minister Damian O'Connor just as short hop from his home turf. He said he was very keen to support the work of the Institute, and in particular is very keen to support Biosecurity Week. He commented on general Industry agreements saying readiness and response needed tweaking so industries are more into prevention, meaning offshore. He said he felt the biosecurity brand had been dumbed-down in a big MPI, a concern the MPI had had for many years.

Among new concerns for the Ministry was ballast water, the Minister acknowledged the challenges of mycoplasma bovis, the brown marmorated stink bug, myrtle rust and kauri dieback. On efforts so far, he said we all make mistakes.

"**In biosecurity we're never perfect. We need to adjust, listen, and get on and improve.**"

Leigh Marshall from Nelson City Council spoke about Nelson's full range of ecosystems. Singled out for mention was the inland hill country home of many rare plant species.

The area is threatened by the spread of wilding conifers.

"We are having some success and are now in maintenance mode." She also mentioned control programmes for Spanish heath, gorse, goats, and the novel pest fish gambusia. She said the challenge of climate change is what to continue with in the future. She highlighted Nelson's fenced Brook Waimarama Sanctuary and the Nelson Halo around it, and the desire to connect biosecurity corridors.

Not for the first time at NETS, Project Janszoon director Devon McLean spoke of the work of the organisation in the Abel Tasman National Park.

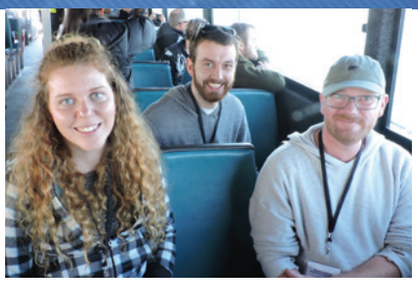
He said a key activity was to secure the area from wilding pines. He said that stage is now in maintenance mode, but there are 113 other weeds mostly garden escapes which need to be attended to, to prevent further decline.

NZBI President Darion Embling

Biosecurity Minister Damien O'Connor

Brent Barrett and Leigh Marshall

Kerri Moir and Jan Crooks



Rachel Batley, Tom Harding and Brent Holms

Another day at the office

He said the aim is to restore geko, kaka, phio, saddleback, mohua (the canary in the coalmine) and kiwi. He said the health of mistletoe is an indicator of how well the project is doing against possums.

In terms of future proofing the achievements, he said:

"We have a committee for working in the future. The model for **success is long enough for real gains, and short enough for most of us to see it**."

Presentations on both the Top of the North and Top of the South Marine partnerships demonstrated that the sea recognises no borders and showed what could be achieved through interagency and territorial cooperation in terms of creating awareness as well as making significant in-roads into managing marine pests.

Another example of community lead conservation action was the work of the Project De-Vine Trust Retired career conservationist Neil Clifton highlighted the trust's achievements of clearing the pest vines out of Golden Bay and around Abel Tasman and Kahurangi National Parks

He explained how a local community-led weedbusting initiative grew into a landscape scale pest plant programme, which has tackled areas of high infestation that were in the 'too hard basket'. It has relieved a large number of landowners of the burden of trying to control the pest vines on their properties as well as the enormous numbers of seedlings that keep coming in via birds, wind and mammals.

The Trust has so far killed 318000 vines manually on 448 properties. He said reporting progress is important to funders but more importantly to landowners. He **said it is great to have cheerleaders but most important is to have longevity.**

Delegates already heard the good work of project Janszoon in Able Tasman National Park but most were overwhelmed by the work and the scale of it when they saw it first-hand on the field trip. People are a huge biosecurity risk in the park, where 300,000 people had visited in the previous six months.

Some of the challenges were dune restoration in such a dynamic environment and gorse control. Feral cat control is a challenge because of the threat to wekas. There is a network of traps for stoats which cover 85% of the park and successful mice control has occurred on three islands. Deer and pig control remain problematic.

Native species already returned to the Park include South Island robin, saddleback, kakariki, South Island kaka and brown teal.

The logistics of working in such an environment are challenging and the Project has had great support from local transport operators.

A marine field trip visited Nelson Haven Marina to look at marine biosecurity threats and actions and find out about current research and projects from Nelson-homed Cawthron Institute.

A field trip with a focus on wilding pines visited Nelson's mineral belt ecosystem of Mt Richmond Forest Park where visitors learned the challenges faced when managing wilding conifers right next door to forestry land.

The evening dinner was the time for presentation of the Institute's Legacy Awards. Wayne Linklater from Victoria University won the Peter Nelson Award for vertebrate pest management, and in a double for Northland Regional Council, Sara Brill won the Peter Ingram Award for plant pest knowledge sharing, and Cameron Bunton, also from Northland, won the Dave Galloway Award for Innovation.

Mikayla and Jordan Munn

Kathy Walls and Chris Roberts

Abel Tasman locals

Ken Wright shares his local knowledge

Rob and Tim Brenstrum and Khan Adam

Pete Caldwell and Rob van Zoelen

The following day Darren Lees from Greater Wellington Council won the Rob McGuinness Stook Award for best presentation, for his talk on predator control on Wellington's shoreline.

In closing sessions Environment Canterbury's Laurence Smith demonstrated ECan's practical steps towards farm biosecurity.

Recent biosecurity incursions, such as velveltleaf and mycoplasma bovis, have highlighted the need for better biosecurity practices on farms. People, vehicles and equipment post a high biosecurity risk and should be managed accordingly.

For the past five years ECan's biosecurity staff have observed formal biosecurity protocols and used mobile wash down facilities on board their trucks when moving between properties. More recently, all field based operational staff across the organisation have been equipped with biosecurity kits for removing dirt and disinfecting footwear, clothing and equipment. Staff have also developed a portable, easy to use 12 volt wash down system that plugs into a cigarette lighter and uses minimal water, making it suitable for use on smaller vehicles.

Laurence demonstrated the kits the council has prepared and the vehicle modifications.

"It's not much good preaching if were not seen to be doing it ourselves," he said.

James Knapp from OSPRI presented on workplace safety using experiences gained from formulating OSPRI's new three-year health and safety strategy, which it wants to share with others in the biosecurity industry.

In an industry where workers often operate in remote environments and face challenges to their health and safety James emphasised it is Important to know where workers are and to have safety plans and reporting mechanisms in place. It's all very well to have a plan but it's got to be practical and everybody has to buy into it. How do you exercise your duty of care to people you can't see? was the question he posed.

Among risk management methods he mentioned are effective two-way communications, satellite vehicle impact alerting, welfare checks and lone worker tracking, improved personal protective equipment and clothing, hazard mapping and event reporting, and workplace first aid and risk management courses.

Andrew Bell from MPI brought those gathered up to date with the development of Biosecurity 2025, the strategy designed to guide effective biosecurity in the first quarter of 21st century.

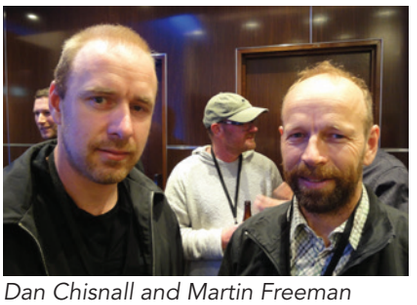
He reminded all that an effective biosecurity system needs to be **agile enough to deal with the changing natural environment, collaborative enough to ensure all activities consider biosecurity implications, and flexible enough to enable full participation.**

Unitech students continued their presence at the conference. Phoebe Andrews and Kayla Rench spoke in a five-minute gem session about their work on biosecurity and its advocacy in the Hauraki Gulf with reference to ferry passengers in particular.

Wellington City Council's Illona Keenan took the five-minute opportunity to report on the success of a programme using art to raise weed awareness. By sharing this idea Illona said she hopes others throughout New Zealand may follow.

Anne Thompson, Adeline Bosman and Andre Visser

Sian Reynolds, Toby Shanley and Tom Harding



Dan Chisnall and Martin Freeman

NZBI news

Alfredo Paz, Sara Moylan and Ronny Groenteman

Simon Croft and Sharon and Kelvin Leatham

Lynette Benson and Matt Hickson

Unitec's Diane Fraser took the opportunity to promote a new science journal specific to biosecurity. 'Perspectives in Biosecurity' is intended to cover the multi-disciplinary nature of biosecurity presently under-represented in current scientific publications.

Other gem topics concerned successes with a variety of modified bait stations and successes with trials of gel for the control of wilding pines.

The model of short sharp gem sessions continues to work well and is often possibly the best way of getting a point across. It is also a great way to build confidence for new presenters both junior and senior.

Of the many presentations a few stood out for their novel or challenging content:

Peter Russell from Better Biosecurity Solutions Ltd shared his insights so far, on Canada geese control and its challenges. It is their risk to aircraft movement and safety at Christchurch International Airport from bird strike that is the prime driver for developing the first interagency management strategy for the big birds which Peter is helping to guide.

Ronny Groenteman from Landcare Research presented a case study of public information involving left-field obstacles and a concerted opposition campaign in the case of introducing biological control of White horehound (*Marrubium vulgare*). Following public notification of the intent to pursue biocontrol for horehound, Landcare was contacted by a concerned medical herbalist who harvests the plant in the wild for use in his products. The following weeks brought a steady stream of letters of opposition from medical herbalists. Opposition to biocontrol in New Zealand is rare, especially such an organised campaign. As well as the potential to affect the horehound project, **this group may oppose future weed biocontrol programmes where the target weed is also harvested for medicinal uses.** Ronny explained how best practice and lessons learned are being used to manage this situation and achieve the best possible outcomes for all.

Jamie MacKay and Jacqui Wairepo, from Wildland Consultants described what they believe is the first foray into avian biocontrol in New Zealand - using chickens to control introduced plague skinks within fenced enclosures on Aotea, Great Barrier Island.

Bradley Meyer from Indigena, part of Kaitiaki o Ngahere, described the challenges of controlling a tiny patch of *Wilsonia backhousei* in New Zealand's only known site, the Waimea Inlet in Nelson. Some felt that it had arrived by itself and should be declared indigenous. Others felt that it was introduced and should be eradicated while an opportunity still existed. To the best of Bradley's knowledge, no one had ever set out to eradicate this species from anywhere before. Of interest was the need to pre-deliver control materials to the control site using kayaks.

Matt Hickson from OSPRI spoke about cooperative management of large-scale aerial 1080 operations focussing on The Battle for our Birds 2016 rodent control operations, which required huge areas of treatment to counter the effects of a large beech mast on a number of threatened species. Despite initially having quite different procurement and management methodologies, OSPRI and the Department of Conservation were able to work well together and there has been a rapid improvement in the management of aerial operations as **the best of both organisations' techniques have been combined to produce high quality, cost effective operations.**

Lee Shapiro, Andrew Blayney, Helen Blackie and Shane Hona

Jordan Lasenby and Heiko Kaiser

Keith Briden and Helen Payne

Donna Watchman and Benson Lockhart

Kerri Moir and Pete Caldwell

Peter Visser demonstrates Key Industries' animal welfare approved rat trap

Jenny Brunton from MPI spoke about creating a fire break for the aquatic weed *Undaria* in Fiordland and the challenges and disappointments that went with it. She reported that In April 2010, a single specimen of undaria was found growing on a barge mooring rope in Sunday Cove, Breaksea Sound, Fiordland - the first detection in the Fiordland Marine Area. Local elimination of undaria from Sunday Cove, alongside pathway control measures was the response option. Things were looking promising until April 2017 when a widespread population of undaria was discovered about 2 km away from the response site. New initiatives to prevent the further spread of undaria via human vectors were implemented in December 2017. Work is now underway with the support of science to manage the pest and prevent its spread in Fiordland.

Trade exhibits included monitoring cameras, night vision and heat sensing technology, smart traps and smart chemicals. Perennial NETS supporter Key Industries displayed among other products its humane rat trap which has recently passed the stringent testing regime of the National Animal Welfare Advisory Committee1 guidelines.

It was pleasing to see the increase in sponsors and trade exhibits this year, and some new faces managing the exhibits during the breaks.

NETS 2019 will be held in Tauranga from July 24–26. See you there.

Vicky Wilson, Nicola Gourlay and Keith Briden

Campbell Perrin and Mike Cripps

Sam Happy walking the talk

Darin Underhill, Sara Moylan and Jack Keast

Don McKenzie and John Mather

Matthew Way and Bruce Thomas

Hugh Gourlay, Craig Davey and Lindsay Vaughan

Jenn Shephard and Simon Allard

Wayne Linklater with the Peter Nelson Award

Critical of present policy:

Wayne Linklater wins the Peter Nelson Memorial Trophy

Victoria University of Wellington's School of Biological Sciences' Associate Professor Wayne Linklater has won this year's Peter Nelson Memorial Award for achievement in Vertebrate Pest Management.

Extracts from Wayne's nomination by colleagues include:

"Wayne has proven himself to be a champion of independent and critical thought, who is not afraid to challenge the orthodoxy with dispassionate and thought-provoking positions on pest management. He is a very effective science communicator in a field not renowned for them. **While some may find his positions confronting, it is these sorts of challenges that help ensure that we understand all angles clearly and we should celebrate the fact that we have a community that is not afraid to challenge each other in a respectful way."**

"He has demonstrated a clear focus on putting his energies into high priorities for the sector, rather than pursuit of pet projects. In particular, his team's work on semio-chemical based long-life lures for pest management applications has huge potential to enable large gains in the efficiency and effectiveness of other technological platforms. This project responded to a clear call for better lures and is set to deliver on that."

"Wayne is a great exemplar of collaboration, which is so important if pest management research is to make a meaningful impact on pest management delivery. He recognises the value of integrating technologies and disciplines in his research and has extensive domestic and international collaborators. This also extends to his teaching methods, where he actively involves pest management sector professionals in his courses."

Commenting on his Award, Wayne said he was humbled to share the honour with previous winners, like Bruce Warburton and Graham Nugent.

He paid tribute to the man the Award was honouring.

"Peter Nelson's reflections about vertebrate pest management in New Zealand were an important influence on my own approach to the topic. I first learned about integrated pest management 28 years ago as a post-graduate student around the same time that Peter was advocating for the approach for the control of vertebrates. **Peter's advice is as salient and important today as it was almost three decades ago."**

Wayne criticised current approaches to pest management in New Zealand.

"We could have an integrated multi-pest management plan for this entire nation to reap sustained economic, social and environmental advances but instead **we have a species eradication policy that is not different from the failed deer and rabbit wars of the 1950s and 1960s**. Communities like ours have an important role to play in making sure that government designs and implement policies that make full use of our nations' experience and expertise in pest management.

"You can expect that this award will not only encourage me to continue our development of new technologies for vertebrate pest control but that I will also continue to publicly discuss and debate government policy on pest control and seek for it to be better informed by this community's experience and expertise.

"It is, I think, a particularly positive indication of the professionalism and integrity of this community that you could give this award to someone who has publicly criticised government policy, in particular the predator free 2050 policy."

The Peter Nelson Memorial Trophy is awarded annually by the NZ Biosecurity Institute to individuals or organisations, for achievement in Vertebrate Pest Management within New Zealand.

The trophy is a carved kokako standing on a limb above the skulls of small predatory mammals - a rat, a possum and a stoat.

Sorting the good green from the bad:

Sara Brill wins the Peter Ingram Award

Former Northland biosecurity officer Sara Brill has won this year's Peter Ingram Memorial Award for enabling others to achieve in the field of pest plant management.

Here is why Sara's colleagues recommended her as an excellent recipient:

Sara works tirelessly in plant pest management and has had a lifelong interest in plants and sharing her knowledge with others.

She joined the Northland team in 2010 having worked previously for the Bay of Plenty Regional Council, and quickly established weed workshop events which had been very successful in Tauranga.

These free events provide attendees with a hands-on experience of weeds and how to control them. The weed workshops continue to be hugely popular and the events run in winter attract between 200 and 250 people, **that's more than 1600 people introduced to weed action since Sara began the events.**

Sara Brill and Cameron Bunton with their Awards

Often in Northland, garden escapees are our next worst forest invader, and Sara's message is all about giving people the awareness to sort the good green from the bad.

As a trained teacher, Sara is all about sharing her wide knowledge and promoting weed action with others. To this end the number of community groups who are active in weed action has grown as a result of her energy and kind way of working with people.

Her kindness and belief in community extends to helping youth groups and young leaders at schools who themselves mentor youth to support their own communities in environmental management and other issues.

Sara has won wide respect amongst those she works with and is a fantastic role model and mentor for our pest plant staff.

The Peter Ingram Award is given to a member of the Biosecurity Institute who has successfully undertaken or enabled others to achieve, in the field of pest plant education, control or management.

Never shy of doing something different:

Cameron Bunton wins the Dave Galloway Innovation Award

Northland Regional Council's marine biosecurity officer Cameron Bunton has won this year's Dave Galloway Innovation Award.

Cameron began his career as a cadet with Northland Regional Council six years ago and is now a valued member of the Northland marine biosecurity team.

Cameron has been heavily involved with improving biosecurity processes and never shies from doing something different or going the extra mile to deliver projects.

Always an innovative thinker Cameron helped develop the Northland Pest Control Hub - an interactive portal enabling those interested, to find out more about biosecurity and what the regional council can do.

The Pest Control Hub won the Association of Local Government Information Management's digital project of the year in 2017 and has been recognised as a truly innovative way of engaging our public in pest control. Cameron maintains the hub and is constantly improving its display and content.

The Dave Galloway Innovation Award recognises innovation in all aspects of biosecurity.

Information sharing is critical

Darren Lees wins the Stook Award for creative knowledge sharing

Darren Lees from Greater Wellington Council won the Stook Award for best presentation for his entertaining explanation of the challenges and innovations of testing effective predator control.

Darren is a Biosecurity Officer at GWRC, working in pest animal control for over ten years. He has worked extensively with volunteer groups to provide best practise trapping techniques and over the last few years been doing intensive predator trapping around shorebird nesting sites, refining methods, trialling lures and traps to get optimal breeding success.

In his presentation he shared findings of the three-year Parangarahu Lakes trap trials study of how the A24 gas trap compares to the doc traps, and how they can be incorporated into an existing trapping network. It included different coloured trap box trials and the difference in trapping rates, monitoring through trap catch data, and a modified trap network layout for banded dotterel nesting sites.

He spoke about much of the area being easily accessible to the public and the need to make it clear why the area was protected.

"Receiving the Stook Award at NETS 2018 was a huge surprise. I was a little hesitant to be honest when asked to give my first presentation at NETS 2018.

"It was a project I was passionate about and maybe that came through in the presentation. I do encourage anyone who has never given a presentation before to give it a go. Information sharing is critical, and we need to know what is working and what is not."

The Stook is a cross between a sword, stick and book. It is a record in wood of all past winners, and has been fairly described as a who's who of the Institute. It is carved from Pacific mahogany and was first presented in 1984. On appropriate occasions the Stook may be presented in memory of an NZBI member.

Darren Lees' name on the Stook Award puts him in good company

The award was carved by former North Island-based Noxious Plants Officer Rob McGuinness, who was, as colleagues describe him "good at getting publicity for the cause". He created the Stook, as a means of supporting ordinary members who do individually creative work and share it with others at the national conference which has now become NETS.

Award winners a credit to our members

New Zealand Biosecurity Institute President Darion Embling has congratulated the winners of this year's NZ Biosecurity Awards which were announced last week.

Greg Corbett receives the Minister's Biosecurity Award from Fisheries Minister Stuart Nash

Mr Embling said Institute members had a part to play in most of the winning projects.

"Our members have close connections with all the winners," said Mr Embling.

Of particular cause for the NZBI to celebrate was the Minister's Biosecurity Award which was won by long-time Institute member Greg Corbett who is the biosecurity manager for the Bay of Plenty Regional Council.

"It is his pest management expertise, his spirit of cooperation, and his commitment to innovation and positive environmental outcomes which made him the ideal winner.

"Greg has also been a strong supporter of the Institute over the years and remains a valuable senior member," Mr Embling said.

Environment Southland's 'Fiordland Marine Pathway Management Plan' won the top prize, the New Zealand Biosecurity Supreme Award.

"This project has been a regular feature of presentations to members during its development."

The awards' winners included a wide variety of biosecurity-related projects including the protection of New Zealand's kiwifruit industry, improving the outcomes for kākako, and a portable footwear cleaning system.

Mr Embling made his comments at the quarterly NZBI Executive meeting held last week.

NOTE

The New Zealand Biosecurity Awards are promoted by Biosecurity NZ and are additional to The New Zealand Biosecurity Institute's own Legacy Awards which are presented every year at the end of July at the annual National Education and Training Seminars (NETS).

Perspectives in Biosecurity

A journal of biosecurity for New Zealand and the Pacific

At NETS 2018 Diane Fraser promoted a new predominantly science journal specific to biosecurity, hosted and enabled by Unitech Institute of Technology.

Here it's editors Mel Galbraith and Dan Blanchon explain a bit more about it and the part NETS played in its development.

Perspectives in Biosecurity is an electronic, peer-reviewed journal focused on biosecurity in New Zealand and the wider Pacific region. Research on the ecology, impacts and management of invasive species is well-served by existing journals, but non-ecology papers may be scattered amongst a range of other discipline-based journals, or may not be published at all. Perspectives in Biosecurity was created to provide a single place to publish research from the diverse range of disciplines that underpin biosecurity. In addition, Perspectives in Biosecurity is designed to accommodate interdisciplinary research and non-traditional output forms (e.g. the results of arts/science collaborations).

An analysis of NETS presentations 2004-2016 shows the multi-and-interdisciplinary nature of biosecurity in New Zealand.

The average proportion of NETS presentations dedicated to the ecology, impacts and management of exotic species is 54%. These papers have potential to be published in existing journals. The remaining 46% of the presentations – perhaps 20 per year – may not be published elsewhere, and thus represent a potential loss of an opportunity to disseminate biosecurity knowledge.

The benefits of Perspectives in Biosecurity are:

- It is a single focus peer-reviewed journal for biosecurity papers regardless of the discipline.
- It contains New Zealand-specific articles – New Zealand's biosecurity issues and needs have been described as being unique compared to the global situation, largely the result of geographic isolation and primary productivity being a high component of GDP;
- It complements other forms of dissemination such as Protect and existing discipline-specific journals.
- It helps New Zealand maintain a 'world leader' role in biosecurity research and management.

Perspectives in Biosecurity is an electronic publication hosted by Unitec Institute of Technology.

The types of manuscripts considered include research articles, short communications, technical reports, letters, review articles and opinion articles. Access to Perspectives in Biosecurity is free.

The scope of Perspectives in Biosecurity includes:

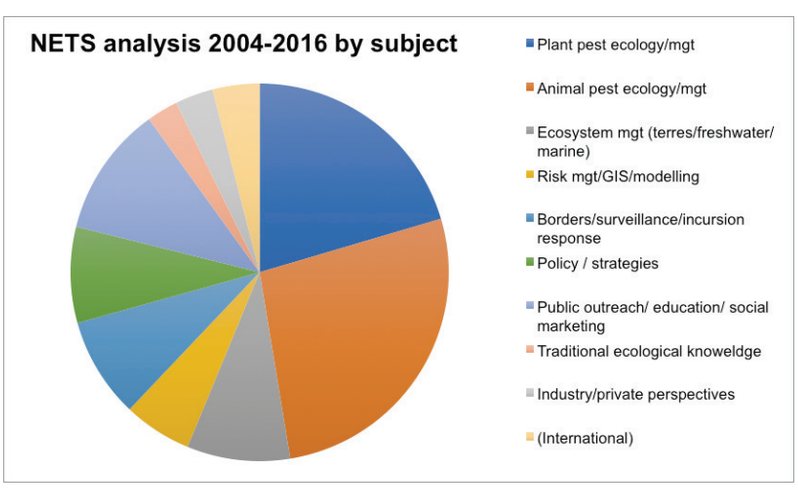
- invasion biology and ecology
- invasive species identification
- management and control;
- new invasive species records
- modelling
- biosecurity law and policy
- relationships between humans and invasive species (socio-ecology)

As a journal dedicated to the discipline, **Perspectives in Biosecurity** provides a mechanism to disseminate multidisciplinary information helpful to New Zealand managers and practitioners, with the peer review process offering a mechanism to ensure that content is evaluated for technical and scientific quality and correctness. To date, articles have included the potential impacts of myrtle rust, management practices for moth plant seeds, a look at the relationship between bees and Argentine ants and an arts/science collaborative output on the impacts of Queensland fruitfly. An opinion article on post-border security has also been published.

We invite submissions to Perspectives in Biosecurity from NZBI members.

https://www.unitec.ac.nz/epress/index.php/perspectives-in-biosecurity-2/

https://www.unitec.ac.nz/epress/index.php/category/publications/epress-series/perspectives-in-biosecurity/



Assessing kill-trap welfare performance for regional council and community group pest control programmes

Many designs of kill traps are used to control mammal pest species in New Zealand. Trap users include government agencies, community groups and private individuals.

Increasingly **the public expects that traps used to kill animals will do so as quickly and painlessly as possible.** The welfare (killing) performance of many kill traps has been tested on captive wild-caught animals by Grant Morris and colleagues at Landcare Research

To assess the welfare performance of a kill-trap system (including the trap, any boxes or covers used, and the way the trap is set), a penned or caged animal is monitored while approaching and interacting with a trap, and the time to loss of consciousness and cessation of heartbeat are measured after capture. The International Organisation for Standardisation (ISO) published a standard for testing traps in 1999, and this standard was then adapted in New Zealand as a National Animal Welfare Advisory Committee1 (NAWAC) guideline for testing traps. For kill traps to meet this guideline, either 10 of 10 or 13 of 15 target animals must be rendered irreversibly unconscious within 3 minutes of capture.

These sample sizes have been selected to minimise the number of animals required per trap tested and to provide a 90% probability that, at a minimum, traps meet the 3-minute limit 70% of the time. Unconsciousness is determined by using the palpebral (blinking) reflex, which stops when the animal loses consciousness. An observer is present at all times during trap testing so that the level of consciousness of a trapped animal can be assessed as soon as possible after it has been trapped and accurate times to unconsciousness and heart-stop can be recorded. Trap tests are also videoed using high-resolution cameras with either white light or infrared illumination. Frame-by-frame playback of video can be used to examine in detail the position of an animal in the trap at the time it is triggered. If a trap fails to kill a captured animal in the required time, the video and first-hand observations can be used to suggest to the manufacturer how to improve the performance of the trap.

All trap testing at the Landcare Research animal facility is approved by the Landcare Research Animal Ethics Committee. **One of the underlying principles of this approval, which takes account of the costs and benefits of any planned 'manipulation' of animals, is that the test has the potential to significantly improve the welfare of captured animals in the field. This will become increasingly relevant as more animals are trapped as part of the recently announced Predator-Free 2050 initiative.**

Traps that pass the NAWAC guideline can be marketed as such, and a summary of the traps tested by Landcare Research is given below. Trap tests are funded either by the manufacturer of the trap or by agencies that wish to use the trap for their own pest control programmes. While it is not compulsory for kill traps to be tested using the NAWAC guideline, such testing allows an informed choice of kill traps by regional councils, community groups and the public. Using traps that pass the NAWAC guideline results in improved animal welfare without compromising trapping efficacy. Although a number of leg-hold traps are now officially prohibited, to date no kill traps on sale in New Zealand have been legislated against.

Testing time - Grant Morris in the field

Community acceptance of trapping of pest animals, which includes considering animal welfare, is becoming increasingly important in pest management. Part of that involves demonstrating a willingness to use methods that reduce any impacts on animal welfare, and this is an area where regional councils have an opportunity to show leadership in the advice they provide to the public and community groups about best practice trapping.

Pest species	Passed	Failed
Feral cat	4	3
Stoat	5	3
Ferret	1	10
Norway rat	5	0
Ship rat	2	0
Possum	3	3
Hedgehog	3	0

Hamish Kendal:

Enjoying the challenge of working with drones

Hamish is a Director at the ecological consultancy Natural Solutions, which includes Flightworks, based in Tauranga.

How long have you been in your job?

I've been working in the biosecurity field for 25 years. In 2001 my wife Meg Graeme and I formed our ecological consultancy Natural Solutions. The new arm of the Company, Flightworks, has been specialising in drone mapping and spraying for 5 years now.

What motivates you to be involved in biosecurity?

Better management of weeds and pests is an important part of protecting our natural values. I really enjoy the challenge of working out how new drone mapping and spraying technology can help us better understand, control and monitor weeds and pests. I like being able to combine my ecological expertise with my understanding of drones to come up with solutions tailored for different biosecurity issues.

What has been your career path to your current position?

I studied Ecology at Lincoln. My biosecurity work began with DOC and Councils, and through my QEII Rep role, and then broadened to a wide variety of clients through Natural Solutions. I saw a real opportunity for the specialist application of drone technology in biosecurity, which we are developing and delivering through Flightworks. The revolution in drone technology provides a fantastic tool for mapping natural areas, and for detecting and controlling weeds in difficult places, which is what I concentrate on now.

Hamish Kendal

What makes up a normal day for you?

My major focus is running Flightworks which requires a lot of time and effort to match new technology solutions to perennial biosecurity problems. If the weather is fine, we like to be out flying, either on a job or testing our equipment. Other days are spent talking with clients to understand exactly what they need and completing the data delivery and paperwork for jobs.

What do you enjoy the most about your job?

Completing challenging projects after working with clients to determine the best approach and knowing that we have made a difference. Breaking a job into its parts, putting it together and packaging it into deliverables is never a repeat operation, which keeps me on my toes!

From the Archives

Can anyone remember this?

Metric advisory board news

The Metric Advisory Board have advised that most changes associated with agriculture will take place during 1974 or have already taken place.

Animal remedies are now sold in metric quantities; as from June, 1974 all new labels for agricultural chemicals are registered in metric units only. Sales will be entirely metric by late 1975. Since January, 1974, grain seed and produce have been traded in metric terms. The Board's Agriculture Sector Committee has seen the metrication of well known sales as being an important step in the familiarisation of the farmer with the hectare rather than the more familiar acre ...

… We as Noxious Weeds Inspectors are also asked to use metric terms as much as possible in our jobs.

Noxious Weeds Inspectors Magazine

February 1975

The tail

When you succeed you learn once.
When you fail you learn ten times.

New Zealand **Biosecurity** Institute

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