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NZBI Contacts	2
Editor's Note - Swarms: but nothing to do with insects	4
Executive News - It's about benefitting members	5
NETS2022	
Three years in the making: NETS 2022	6
Seen and heard at NETS2022	8
Setting the scene	11
NZBI news	
Institute elects New President	17
Practical advice nets Ken Wright the Peter Ingram Award	18
Dedication to protecting threatened braided river birds earns WMIL the Peter Nelson Memorial Trophy	19
NETS prize bait station is heading a very long way south	20
Kill the rats to get the stoats	20
Best presentation, and she wasn't even there	21
President's Report:	
Members' commitment, dedication and drive is inspiring	22

Members' commitment, dedication and drive is inspiring	22
Secretary's Report: Relieved about more freedom	22
Biosecurity Week 2022	23
Profile	
An ideal fit and a new set of challenges: Meet Briar Cook	24

The Archives and The Tail	
Don't give up in the face of change	25



NZBI CONTACTS



Jono Underwood President



Briar Cook Top of The South



Nick Ward Auckland/Northland



Alice McNatty Immediate Past President



Rowan Sprague Vice President & Canterbury/West Coast

Diane Fraser

Secretary



Raoul Thomas Otago/Southland



Alastair Fairweather Awards Co-ordinator



Lower North Island



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

John Sanson Biosecurity New Zealand



rabbitwatch.org.nz



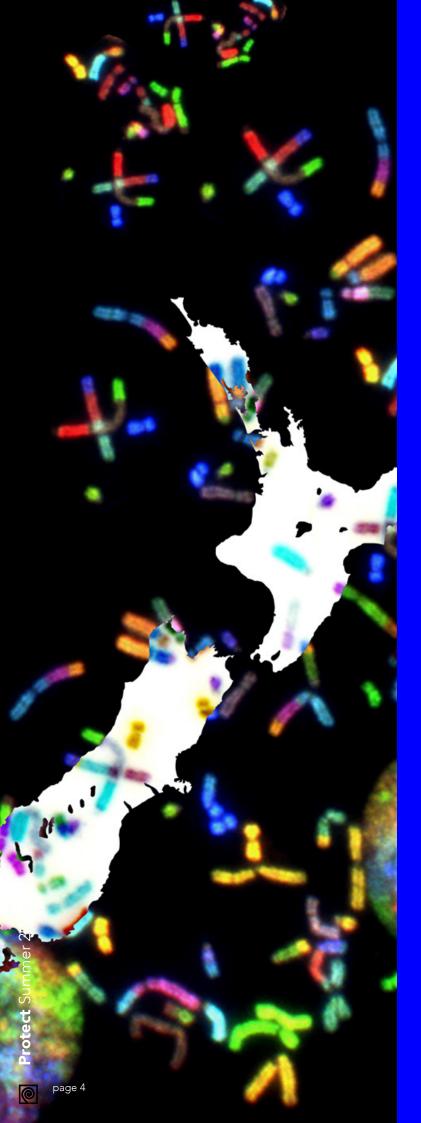
For people who never want to see another wild rabbit on their property

We want to provide a platform that brings communities together to solve our rabbit problem. This website is your neighbourhood resource for all things related to managing wild rabbits on your property. The site has information on the various ways to deal with rabbit pests and you can share your success stories and tips about dealing with wild rabbits in the forum.

Just like we can't win the war on rabbits on our own, this site needs your input so everyone can benefit.

f rabbitwatchnz





FROM THE EDITOR

Swarms: but nothing to do with insects

It was a pleasure to see so many new faces and many familiar ones in Christchurch at NETS2022 after three years away.

It was hard to believe the last time we were all together was Tauranga in 2019. Who knew it would be so long before our next in-person catch-up. It was great that there was such a good turnout.

There has been so much learned in the interim. The country has demonstrated just how far it is prepared to go in the case of a significant biosecurity threat.

Some new themes and quirky presentations emerged from among the sixty or so presentations at this year's NETS. A quick look back through the Protect Magazine archive shows that never before has there been such a diverse range of topics, all related to biosecurity and all relevant to what we do. Who would have thought that we would have heard about swarms in a presentation that had nothing to do with insects? Who would have thought that by dipping a jar into water we can learn about just about every organism that inhabits that body of water? It's fair to say that eDNA sampling is a bit more than just putting a jar in the water, as is acknowledged later in this issue.

It was probably not long ago that biosecurity sector workers weren't thinking of dogs as a realistic ally in the battle, other than finding rabbits or ferrets or contraband. Now they're proving their worth sniffing-out weeds and pathogens.

This issue attempts to capture just some of the flavours of an historic NETS2022.

Laurence Smith's scene setting presentation serves, in part, as a representative history of biosecurity in the whole country. It covers the 'ups and downs', the 'goods and the bads', and it is presented in this issue as a summary of where the biosecurity sector has come from and how it has evolved.

The Archives visits the Institute's past as well, and the part it has played in developing biosecurity as a united, seamless sector.

Noho ora mai Stay well

CHRIS MACANN Editor

It's about benefitting members

More than 260 people attended NETS2022, making it one of our biggest NETS conferences ever.

About 105 of those attending NETS this year were not members. We hope their NETS2022 experience will encourage them to join. At present the Institute has about 470 members so it is pleasing that a significant proportion of them were able to attend in person.

NETS would not be possible without a dedicated and committed organising committee.

The Executive would like to thank Committee Chair Rowan Sprague and her committee: Rich Langley, Laurence Smith, Paige Lawson,



The NZBI Executive Committee August 2022 Paul Horton, John Sanson, Alastair Fairweather, Shane Hona, Alice McNatty, Briar Cook, Rowan Sprague, Nick Ward, Raoul Thomas, Jono Underwood, Chris Macann. Absent: Diane Fraser, Duncan McMorran.

Laura Williamson, Sarah Thwaites, Jemma Hippolite, Ronny Groenteman, Sam Brown, Kevin Gallagher and Keith Briden. We would also like to thank Conference Organiser Carolyn Lewis, and very importantly this year's sponsors: Environment Canterbury, NIWA, Boffa Miskell, Biosecurity NZ, Manaaki Whenua Landcare Research, Wildlands Consultants, Key Industries and Connovation Ltd, for their generous and evergreen support.

Along with NETS, the Executive Committee is also working hard to encourage membership and to keep what the Institute does relevant to those that work in the sector. This is all about benefitting all members, whatever part of the sector they work in.

As part of this work, the Executive has approved lowering the membership subscription fee to 50% of the current full membership fee for retirees and students.

This will be implemented from 1 January 2023, and we will review it in a year. We hope this will make our membership more accessible and enable us to increase our network across the sector.

We are looking forward to a busy spring and summer in biosecurity.

Noho ora mai Stay well

THE NZBI EXECUTIVE COMMITTEE

Three years in the making: NETS 2022



The view from Tiromoana Bush

AN OVERVIEW BY CHRIS MACANN

They came by land, by sea, by air, and by skateboard. They crossed the Strait and they crossed the Alps.

Around 260 people attended NETS2022 in Christchurch. The conference with more than 60 presentations was three years in the making. The number of attendees was possibly the largest ever, and most likely indicated just how important face-to-face interaction is after a break of three years.

Te Ngāi Tuahuriri Runanga welcomed all assembled and encouraged them to share their knowledge and make the most of the gathering and of the partnerships it offered.

President Alice McNatty reminded one-and-all that NETS is an opportunity to share, learn, connect, and be energised.

"The theme for this year's NETS is Ka rerekä haere te Taiao Changing Landscapes - an acknowledgement that we live and operate in dynamic physical, social, and political environments. The diverse range of landscapes that we all work in requires us to adapt and embrace change."

"I encourage you to forge new contacts, solidify existing ones and share your knowledge and expertise.

"Help us shape the changing landscape of biosecurity."

Environment Canterbury's Principal Biosecurity Advisor, Laurence Smith set the scene, with a background to biosecurity in Canterbury including immense changes in approach he had seen, and the eventful history which had led to this moment.

Melanie Mark-Shadbolt, CEO for Te Tira Whakamātaki and Kaihautū Chief Māori Advisor to the Ministry for the Environment strongly encouraged

••I don't intend to let it gather dust. I want to continue to work with you."

Simon Upton, Parliamentary Commissioner for the Environment on his 'Space Invaders' report.

organisations to do more to embrace Mātauranga Māori particularly in the fields of research and science.

Parliamentary Commissioner for the Environment Simon Upton beamed-in his two-way keynote

address, in which he thanked institute members for their help in compiling the report Space invaders: A review of how New Zealand manages weeds that threaten native ecosystems. He said their advice was important in developing the report and encouraged all present to embrace the report and to help him to ensure the recommendations are acted on.

••You can't go out and 'do' biodiversity as it is something that just exists, however you can 'do' biosecurity, because it is an action."

Laurence Smith

Sessions about controlling pests, above and below sea level, covered adaptations and new opportunities in a pandemic world, tools for managing pests, and tools for providing help with decision making.

A key theme was the importance of data management in formats everyone can understand, from experts to community groups.

Wallaby control had a high profile with control becoming vital before the problem gets too big to handle. Those gathered heard about Te Tipu Mātoro National Wallaby Eradication Programme, where central and local government agencies are working in partnership on the vision for a Wallaby-free New Zealand.

Science fiction may also be close

to becoming science fact in terms of technology to detect the "last predator". In what sounds like a horror film, but which turned out to be something akin to a clip from 'Star Wars', Bruce Warburton gave an idea of what could be just around the corner for robotic and swarm technology. In the context of this presentation, swarm technology has nothing to do with insects.

There was a lesson on the complexities of gathering environmental DNA (eDNA) from water bodies. It's a bit more complex than collecting a container of water. And **moving** water is very different from still water in the world of eDNA sampling methodology.

Protect Winter 2022



Visitors hear about the planting programme, among many activities at Te Waihora

••It's important to know about all technology, to work with a device, rather than expect it to work for you."

Brent Barrett on why people or groups may fail an app because it is not applied correctly.

There was an item on maintaining the mojo during Covid disruptions, as enthused by Lynne Huggins. The concept of the Weed Café was developed as a means of staying in touch during Covid by DOC's Weed Technical staff.

Particular credit must go to Diane Fraser from Unitec, and Sophie Badland from NZ Winegrowers who both made the trip to Christchurch, but found they needed to selfisolate once arrived. Both beamed in their plenary presentations from 'next-door'.

Sophie won the Stook award for best presentation, for her talk on behaviour change in the wine Industry.

Diane's presentation summarized a study of the attitudes of people beach-walking dogs in terms of understanding regulations and conservation values.

In fairness to dogs, there was also an item on dogs as heroes in the detection of kauri dieback.

• Politicians seem reluctant ... Officials in doubt should go to biosecurity officers in the field."

Simon Upton, Parliamentary Commissioner for the Environment on enacting his 'Space Invaders' report. Field trips to Lyttleton Harbour, Banks Peninsula, Te Waihora, Lincoln and North Canterbury covered research, groundwork on pest control and biodiversity projects,



David Murphy from Environment Canterbury enthuses those present about partnership programmes at Te Waihora

and large-scale disposal of animal and plant biosecurity material.

Zero Invasive Predators and Living Springs

The team at the Zero Invasive Predators (ZIP) research facility in Lincoln is studying predator behaviour, novel solutions for predator control, and running proof of concept trials. Key pieces of work include dye marker trials, novel trap development for predator elimination, predator fencing, and predator control at-scale in a landscape setting.

Multiple trapping and detection techniques developed here have been employed to target a number of key pests in a pest control project on Banks Peninsula as part of a larger Predator Free 2050 objective.

Te Waihora/Lake Ellesmere

Te Waihora/Lake Ellesmere is one of the most important wetland habitats of its type in New Zealand, and an area of cultural, natural, historic,

and recreational significance. Due to a change in land use over time, the lake has suffered significant environmental impacts. The trip highlighted programmes in place to restore Te Waihora. It showcased the work done by the Weed Strikeforce Team, who are undertaking extensive willow control and planting 100,000 natives as part of the One Billion Trees project.



Demonstration of the Cacophony Blind Snap Trap at Te Waihora

page 7

Seen & heard at NETS2022



Jourdan Lethbridge and Beth Williamson

••You'd think Waikato would've had a bigger budget."

Overheard as Benson Lockhart departed NETS on a skateboard.



Paul Champion explains some of NIWA's biosecurity activities



Jono Underwood summing-up NETS2022



Richard Bowman receives a prize of a personal locator beacon from Marcus Girvan from Boffa Miskell



Abigail Evans explains the Find a Pest app



Marcus Girvan presents Bridon Messe with his prize of a \$500 voucher for Cactus outdoor products

NETS 2022



Sharon Trainor with her prize baitstations from Key Industries



Steve Hicks and Kevin Christie



Trevor James and Mike Cripps



Kerry Bodmin and Belinda Studholm

••What will happen to plants that have been [previously] suppressed by pests, in 2050?" Briar Cook



Craig Morley and Tracy Osborne



Vivienne Lepper and Brian Alder



••Most people have nightmares about these things. I don't know why."

> Bob Brown on parasitic behaviour in the wasp universe



Rowan Sprague and Richard Bowman



Ewan Aiken and Kurtana Kumar



Sharon Leathem, Philip Duffy and Sean Spooner

••The key was to strip-away the land tenure barriers."

Jono Underwood on the success of Marlborough's wilding pine programme



Karen Thode shows her wares to Ken Wright



Kim Parker and Andy Wills

Protect Winter 2022

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Hamish Hodgson and Ilona Keenan



Michelle Archer and Keith Briden



Heidi Pene and Benson Lockhart

NETS 2022



The NETS2022 Organising Committee Laurence Smith, Rowan Sprague, Rich langley, Ronny Groenteman, Kevin Gallagher, Paige Lawson, Sam Brown, Gemma Hippolite, Keith Briden.

Whakaraupō/ Lyttleton Harbour and Ōtamahua/ Quail Island

The visit included a bus tour of the largest Port in the South Island and a visit to Ōtamahua.



Visitors heard stories of the past, witnessed some exciting new

Water water everywhere. Te Waihora Field Trip

projects and saw some of the mahi that goes into helping the island become predator-free.

Kate Valley Landfill and Tiromoana Bush

The group heard how the landfill was constructed, how environmental issues such as leachate, gas, and water are collected and managed onsite, and how the landfill operates, from the delivery of waste including deep burial of invasive pest plants, to compacting and safety. Kate Valley Landfill receives pest species for deep burial each year including materials related to *Mycoplasma bovis*, border incursions, and pests and unwanted organisms from the Ministry for Primary Industries and Environment Canterbury.

The group picnicked at the adjacent Tiromoana Bush where restoration and conservation planting is ongoing on former farmland now owned by the landfill company.

The group learned some of the area's pest challenges along the way, most notably about nassella tussock.

The Annual General Meeting welcomed new President Jono Underwood and Vice President Rowan Sprague, and farewelled outgoing President Alice McNatty.



More than just a load of rubbish. Looking at the Kate Valley Landfill



Planting at Te Waihora, or anywhere, is more than just sticking a spade in the ground

Jono reiterated that the Institute is for members to share and learn. He urged one and all to make the most of the opportunities that membership provided.

"It's all about professional development." He encouraged managers to support the Institute.



Ecologist Fraser Maddison explains the restoration work at Tiromoana Bush

Ken Wright, Biosecurity Officer for Tasman District was presented with the Peter Ingram Award. The Award is given to a member of the Biosecurity Institute who has successfully undertaken or enabled others to achieve, relevant to pest plant education, control or management. Ken has prepared an educational pamphlet series giving practical advice on controlling pests.

The Peter Nelson Award was presented to Wildlife Management International Ltd for its staffs' dedication to the protection and enhancement of New Zealand's threatened braided river bird species. The Peter Nelson Memorial Trophy is awarded to individuals or organisations, for achievement in Vertebrate Pest Management.

The people and the communities we serve are as diverse as the landscape:

Setting the Scene

By Laurence Smith, Principal Advisor - Biosecurity, Environment Canterbury

The Canterbury region covers an area of 44,503.88 square kilometres and is home to a population of approximately 650,000 people.

The region stretches from the Lindis Pass in the south to north of Kekerengū in the north and from the southern alps across plains and large braided rivers to the Pacific Ocean.

Christchurch is the largest city in Canterbury with 59% of Canterbury's population living here and has the second largest urban area in New Zealand. There is an enormous range of climatic conditions across Canterbury ranging from the snow-covered alps to coastal micro-climates. This provides habitat for a diverse range of plant and animal species.

I take great pride in serving the Canterbury region. The people and the communities we serve are as diverse as the landscape. This doesn't come without its challenges, but I enjoy playing a role in helping protect our biodiversity, production, and cultural values from the invasion of pests, and fully believe in the value and importance of the work all of us here today are undertaking.

It has been a long journey with many changes since I first joined the Institute of Noxious Plants Officers Incorporated and attended my first NETS over 30 years ago.

Back then there were a bunch of blokes, who were very passionate about killing agricultural noxious plants with a variety of herbicides and regaling tales of recent biological control agent releases. They were always willing to pass on their knowledge to new people to the industry.



We are here. Laurence Smith leads a field trip to the Kate Valley Landfill and boardering Tiromoana Reserve

I remember some of my first experience of listening to talks at NETS wondering 'who are these grey-haired elderly men?' They did seem to know a lot and had huge bookcases full of information and boxes of records of seemingly everything ever done in pest management.

And now, all these years on I find myself standing before you. How the biosecurity landscape has changed over the years. It is great to see the cross section of people representing everything biosecurity from throughout New Zealand.

Landscape changes

When considering themes for this conference the organising committee quickly arrived at the theme of 'changing landscapes'. When we talked about landscapes, we were thinking in quite a holistic way. The range of landscapes varies from the physical to the metaphysical.

For Canterbury in particular, this seemed like a theme most apt for our region, given physical landscapes have literally changed considerably in the last 10 to 12 years.

The Christchurch and Kaikoura earthquakes have had a major impact on the physical landscape, people's psyches, livelihoods, and even how and where they live, and will continue to do so for many years to come. I had experienced quite a few earthquakes prior to 2010, but nothing so brutal and instantly impactful as we had since.

Covid is of course another event which has changed the global landscape in a previously unimaginable way for health, wealth, and the supply of some everyday goods. Also impacted has been the delivery of services,

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and lost opportunities with numerous events and educational activities being cancelled. *Mycoplasma bovis* was devastating for some in our rural community, but also greatly raised the profile of the importance of farm biosecurity, for diseases anyway.

Other changes are more subtle and slowly creep in, almost unnoticed at first by most people until they are having significant impacts, or are more easily recognised. Changes in land use over time have had enormous impacts on our environment. The loss of indigenous vegetation and native species has been profound and is ongoing. Much of the arid plains of Canterbury, once covered in dense patches of nodding thistles, and soil at times at risk of blowing out to sea in a nor-wester, perhaps saved from this fate by numerous shelterbelts that divided grazed and cropped paddocks, have been transformed into open land, well irrigated, with dense pasture and covered in cows. **Experiments with planting conifers in the high country seemed like a good idea at first**, but now tens of millions of dollars are being spent to halt and reverse their spread.

Climate change is already having visible effects in the Canterbury region, and these will continue to become more apparent over time. Temperatures are warming and weather patterns are shifting, and these changes will have both positive and negative effects for different activities across the region. It is important that we understand the projected impacts of climate change, so we can factor this into our pest management planning, and the work that we do.

A multitude of plant and animal species have been brought into the country by enthusiastic people who have either wanted to have something of the 'old home' in their garden, something to hunt as a food source, cheap alternative fencing, or to have the next best or newest species in the garden that no one else has. Many of these species have become naturalized and a good many of those have gone on to become problematic outside their intended purpose or habitat.

You would have thought we would have recognised some of the traits of previous introductions to New Zealand over the past 170 years. Early on it was rabbits, gorse, wallaby, old man's beard, the list goes on, and now many potentially invasive species harmful to our environment are being spread across regions both intentionally and unintentionally by human activities.

Other changes impacting on pest management have been changes in requirements for land occupiers to mitigate the impacts of their business on the environment. Some have pushed back at new regulations and have taken a dim view of anyone entering their land who might be seeking to check environmental conditions or that regulations are being adhered to.

All these changes can have an impact on pest management.

When I first started my career, 42 years ago, in what is now called biosecurity, as I roamed the countryside on foot or in my series 2 Land Rover, I didn't have a great deal of knowledge or think too much about lag phases, invasive species, sleeper weeds, population trend monitoring, climate change, native ecosystems, biodiversity threats or what technology might bring. I have learnt a lot over the years and am still learning.

Even though I purchased and used my first computer, a Commodore 64 back in the 1980's, I never imagined anyone being able to video call someone or even a group of people on the other side of the world in an instant would have been possible, despite Captain Kirk being able to do this in the 1960's.

As I was writing this, I was thinking about how much the landscape of biosecurity and pest management has changed over the decades and what we are potentially faced with in the future.

Where we have come from

There is a long history of pest management in New Zealand dating back to the mid-1800s. This included legislation for both weeds and animals: 1850 Weeds Legislation, 1876 Rabbit Nuisance Act and much later the Noxious Weeds Act of 1950 and the Agricultural Pest Destruction Act 1967.

With changes to legislation, the environment, political motivations, increased knowledge and growing pressure from the community, how we implement pest management has also changed.

From the Noxious Weeds Act 1978 and prior to local government reform of the late 1980s, many plant pests were managed across the region by county councils through District Noxious Plants Authority Programmes, and animals through Pest Destruction Boards. For noxious

plants, each programme could differ greatly, so there wasn't much consistency in which pests we're getting managed, and if they were the same, they could be in different programmes with different objectives. Plant officers and inspectors worked mostly in isolation to each other and at times with significantly different agendas. Some took an educational approach while others stuck to the letter of the law and enforced everything.

Most legislation was seemingly introduced and motivated by the impacts of plants and animals on production values and changes to agriculture, without too much thought about environmental aspects, perhaps except for old man's beard, which of course, must go.

The only consistent programmes in Canterbury were most likely for nassella tussock, rabbits and possibly wallabies, which incidentally were managed by boards rather than land occupiers, who undertook the work and were funded by taxes or local rates.

There is previous history in NZ of spending a significant resource on managing agricultural weeds and animals that had already become widespread, not necessarily recognising future agricultural threats and potentially ignoring many of the insidious environmental weeds that were quietly establishing and spreading across the regions.

After local government reform in 1989, which saw 850 local bodies amalgamated into 86 local authorities, legislation changed things again with the introduction of the Biosecurity Act 1993.

At this time significant resources were withdrawn from central government, which saw the burden of costs for control and ensuring compliance fall back to individuals and ratepayers. Biodiversity was introduced as a resource management concept at the Rio Earth Summit in 1992. Biodiversity refers in broad terms to the 'variety of life'. Of course, you can't go out an 'do' biodiversity as it is something that just exists, however you can 'do' biosecurity, because it is an action. Much of what is done to protect native biodiversity is implementing biosecurity measures.

More changes occurred in Canterbury in the early-to-mid-1990's when land occupiers elected to discard targeted rate programmes for animal pest control, and opt for a user-pays model. Fortunately, after a subsequent explosion in rabbit numbers RHDV has kept a lid on rabbits, illegally released or not, however the demise of the Wallaby Board and move to land occupier control created the scenario (which was forecast by people like Graham Sullivan and Brent Glentworth over 25 years ago) we are seeing today, with increased densities and spread into previously unknown areas.

In Canterbury, change occurred again in 1996 when ECan's Nassella Tussock Unit, Animal Pest Unit and Noxious Plants Officers were amalgamated into one, to become the Biosecurity Section. Regulation was separated from control operations, which became the responsibility of a Council-owned subsidiary and external contractors. Soon after, a Biodiversity Team was also created alongside Biosecurity.

The first Regional Pest Management Strategy 1998 was implemented from 1 July that same year.

At each change of legislation and in-between each change there has been changes to the way we have implemented pest management programmes. Pests have dropped out of plans, and some new pests have been included. In fact, in relation to pest management, history shows change has occurred over the last 170 years.

Change has occurred much more frequently in the last 30 years, and as time goes by change is almost become continuous in our industry.

Much of this is driven by policy and legislation, science, technology, changing methodology, our ever-changing environment, land use and the increased speed and proliferation of vectors (trade and people) at our borders from which new organisms arrive to our island nation and become established and are eventually detected. It is unrealistic to expect to keep everything out of the country, and inevitably pests will spread between regions. The location, distribution, and future impacts of some of these organisms is often not immediately known.

The main purpose of regional biosecurity is to provide leadership to our communities for pest management.

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There are several ways we can show leadership. We can:

- provide awareness information and education on individual pests.
- coordinate and facilitate to assist the community to manage pests for themselves.
- apply rules to ensure widespread pests are managed by individuals.
- control some pests of very low occurrence within the region.

Regional Pest Management Plans

Environment Canterbury has had four iterations of pest management plans since 1998. Care has been taken to follow a community consultation process and meet the requirements of the Biosecurity Act 1993. The last iteration complied with the National Policy Direction for Pest Management 2015.

The community has provided verbal and written advice and presented submissions at each iteration of RPMP reviews. These have included a myriad of species proposed for RPMP inclusion from a cross section of the community ranging from individuals, groups and industry to central and local government departments and experts from CRI's and the like.

ECan staff and consultants have met throughout each process and deliberated the merits of many of the species raised, and whether they should be included in a regulatory document.

Cost benefit analyses have been completed, often based on limited information and assumptions, particularly where some of the key decisionmaking elements are vague or unknown.

Contradictorily, a species might be so well known and widespread it would be difficult to manage across the region outside of an expensive large-scale rules-based compliance regime. Because of this, many of these species have been left out of the RPMP regulatory environment, and with alternative management options such as localized community initiatives or possibly work on several invasive species to protect values at an individual site.

In the end, a significant number of species raised as issues, have fallen over at an early or rudimentary assessment for RPMP inclusion as a declared pest, and instead have been declined with a comment such as 'insufficient information'.

Some have been included in a list known as 'Other organisms of interest' which is sometimes included in the appendix's of RPMP's, which creates confusion amongst the community as they are mistakenly considered pests which are being managed in some way.

There are continuing expectations that numerous species will be included in RPMPs, often because there is a belief this will enable access to resources, regulation of some kind or control programmes.

Biosecurity and Biodiversity at Environment Canterbury

The introduction of the Canterbury Water Management Strategy in 2009 introduced further changes at Environment Canterbury. The biodiversity field team became a separate entity to Biosecurity. Biodiversity officers (now a combination of Land Management and Biodiversity) refocused on mitigating ecosystem issues at specific sites within predetermined zones, while Biosecurity maintains a pest focus across the region. This is possibly a little different to other councils.

Environment Canterbury set out within the past four years to make some changes to the way in which Biosecurity delivers future pest management across the Canterbury region.

Any changes we are looking at making are reacting to a changing pest management environment.

Currently Environment Canterbury has more than 25 people working within the Biosecurity section including five operational teams, two of which implement national programmes (wilding conifer and wallaby), and several people who work together on regionally focused programmes.

The Biosecurity section has formed a Biosecurity Programme Management Group who meet regularly to report back on programme delivery and planning for the future.

We have recognised the need for a different approach to pest management for the future.

A future focus on prevention has been identified. The plan is to focus on species which are of very limited occurrence and distribution which are identified as having the potential to be the most impactful on the region's values, while trying to balance this with protecting investment into previously successful initiatives.

The Biosecurity team has been laying the groundwork for change over the past few years. Recent change in the wider team's structure and the addition of specialist positions including those in Communications and Engagement, Facilitation and Coordination, Data Management and a Biosecurity Advisor – Invasive Organisms.

Other changes include how the Biosecurity section funds pest management activities from smaller targeted local rates to a 50/50 rate across the region; the creation of community led Biosecurity Advisory Groups in 2019, a greater spread of responsibility and accountability across the teams for workstreams, initiatives and projects, the creation of a Biosecurity business plan and a restructure of some long-term production or what we call 'legacy' initiatives.

The five-year business plan gives the wider team a focal point on where we want to be in time and how we are going to achieve this. The plan includes five key objectives:

- Prevent the establishment of new and emerging pests and other invasive organisms
- Empower people to manage pests
- Improve biosecurity outcomes through collaborative partnerships
- Implement the Canterbury Regional Pest Management Plan (CRPMP)
- Improve methods through research and development

What does the future hold?

Since the implementation of the CRPMP in 2018, Environment Canterbury has come under increasing pressure to include a significant number of species as declared pests in the Plan.

Many, if not most of the species are those which predominantly affect native biodiversity. Many are widespread, while for others their occurrence and/or distribution is unknown.

The level of interest in protecting the environment has increased over the past few years for several reasons in Canterbury. Greater awareness of environmental issues through: media, a council with an increased environmental focus, communities increasingly recognising environmental values, and the increasing impacts of feral animals and invasive weeds. More recently the Parliamentary Commissioner for The Environment's report - 'Space Invaders', has lifted interest in the impacts of invasive weed species.

Environment Canterbury is revising its programme to focus on prevention early in the pest invasion curve while balancing previous investment in pest control within constricted resources.

The position of Biosecurity Advisor – Invasive Organisms at Environment Canterbury, was mooted over two years ago. Dr. Morgan Shields has taken this opportunity, and started work in January 2022.

Morgan's first task was to go out and speak to all those people who have previously approached Environment Canterbury over time, and compile a list of all the species people within the regional community are concerned about. A bit of a hospital pass in some ways, but Morgan has risen to the challenge.

The next step was to seek the advice of people working in the field of weed and pest management assessment, and create a reasonably simple assessment tool which will help initial prioritisation of these species.

In addition to current pests, the Biosecurity section is investigating what invasive organisms from within New Zealand could have negative impacts on Canterbury in the future which are currently thought to be:

- in New Zealand, absent but could be a threat to Canterbury
- of limited distribution within Canterbury.

Over 1050 species have been suggested by government agencies, literature, universities, CRIs, staff, ECan advisory and technical groups, communities, and industry groups.

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These include terrestrial, freshwater, marine and range across all values including native biodiversity, cultural, production and human health. Most species suggested to date are thought to have predominantly native biodiversity impacts.

It is critical that emerging invasive risk species are identified and action is taken as soon as possible to prevent future impacts. It is more economic and efficient to do this early in the invasive curve. This could prevent a future wilding conifer like situation.

Species suggested to be invasive have an initial management assessment for known; distribution, impact, dispersal, recruitment and available management toolbox. Some of this work will benefit everyone across New Zealand, such as climate modelling.

Considered species will have a detailed investigation and will be ranked according to invasiveness and estimated costs using as an yet undetermined system for environmental weeds.

Highly ranked species will be prioritised by Environment Canterbury to be considered for surveillance, pest management and awareness programmes. Lower ranked species will be recommended for alternative programmes such as community led projects.

This work will also inform research development and identify knowledge gaps.

Other areas of change at Environment Canterbury include:

- Formation of a Technical Advisory Group made up of people external to ECan to provide expert advice on invasive species to assist future programme decision making.
- More focus on surveillance activities to establish the extent of existing and new species. Knowing how much of a species occurs and its distribution may determine whether management is possible across the region.
- Promoting passive surveillance in the community through promoting the use of the Find A Pest application.
- Expanding the plant sales and propagation programme from plant retail and wholesale outlets to include community markets and online sales.
- Greater emphasis on educational activities and land occupier engagement.
- Incorporating climate change in future decision making.
- Increased collaborative partnerships at a national, regional and at a landscape scale within Canterbury. This includes the development of a Southern Biosecurity Partnership between Environment Canterbury, Environment Southland and Otago Regional Council.

- Practicing incursion response scenarios to ensure readiness.
- Investigations to determine incursion pathways both onto and away from sites.
- Improving data gathering, sharing and reporting.
- Creation of a marine and possibly a freshwater surveillance programme.
- The use of improving technology for pest detection using GEOAI, satellite imagery, Lidar, thermal imaging etc.

ECan are attempting all of this with increasingly less resources and in need of greater support to attempt successful outcomes. The biggest challenge will be taking the community with us.

Changes affecting all of us

Of course, Environment Canterbury is not alone in the ever-changing landscape of Biosecurity. Crown agencies and each regional authority and community have their own challenges as well as the generic ones. We have never been closer as an industry than now.

I would like to give a shout-out to the great work going on around the country in partnership and within the regions and the ability to share our resources, views, and talents across the regional sector through the Biosecurity Managers, Biosecurity Working Group and the New Zealand Biosecurity Institute.

There are challenges ahead with reviews of pesticides and the Biosecurity Act, increasing community pressure to manage a variety of species, emerging species and potentially increasing pressure to manage pests moving from national incursion response to long term management and resources.

NZBI news

NETS is a great opportunity to hear about the advances in science, technology and methodology for plant and animal pest management. It is a fantastic opportunity to network, develop contacts and to listen to other viewpoints and express your own. Learning is about keeping an open mind and extracting other viewpoints which can flick those switches in our minds to new ways of thinking and hopefully translate some of those newly formed thoughts into what may become successful pest management initiatives in the future.

It's great to see the passion of people presenting at NETS 2022. Many of the presentations highlight the changing landscape of Biosecurity, the awesome work being done throughout the industry and the complexity of the issues we face.

No one person knows the right way ahead, but together we can make a difference. Listen, express yourself, learn from previous experiences of yourselves, and others, and for this week look forward and enjoy the next few days at NETS 2022. Connecting the Questions with Answers:

Institute elects New President

The New Zealand Biosecurity Institute has elected Marlborough District Council Biosecurity Manager Jono Underwood as its new President.

Jono succeeds Alice McNatty who stepped down from the role in July.

Jono recently took on the challenge of membership officer and website manager.

"I saw these as key aspects of a functioning professional body. It is vital to make sure members are engaged and well informed."

Jono said the Institute's members form the inner engine of the NZ biosecurity system.

"The strength of the NZBI is the way it connects all the parts of the engine," he said.



NZBI President Jono Underwood

The Institute can take pride in the calibre of its members, and I see that as a key reason for the world-class biosecurity system we have in New Zealand.

I see the Institute's key role as providing opportunities for those working in the broader biosecurity system, to share, learn and get to know who's who.

The Institute's networks make it far easier to connect the questions with the answers. If you can't find the answer, you will definitely find out who knows the answer.

The government has set some pretty ambitious targets for the biosecurity sector over the past few years and the Institute and its network of practitioners, managers, policy makers and researchers are well placed to work effectively towards them.

"The Institute exists for its members. Its prime function is to encourage and support members do their job to the best possible standard," he said.

Practical advice nets Ken Wright the Peter Ingram Award

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

Here is the Award Citation:

Ken Wright, Biosecurity Officer for Tasman District has prepared an educational pamphlet series giving practical advice on controlling pests. Our region is a unitary authority, and our Regional Pest Management Plan (RPMP) includes both Tasman District Council (TDC) and Nelson City Council (NCC). The pamphlets are designed to provide clear helpful advice to our community across TDC and NCC.

The seven pamphlets are entitled 'Controlling Pest Invaders' and include collective categories of: Pest Shrub, Pest Vine, Pest Ground Cover and Grass, Aquatic and Wetland Pests, Pest Tree, Pest Animal and Pest Insect. Each pamphlet has twelve pages and are A5 format.

Pamphlets are available in display racks at the four TDC office public areas and at the main NCC office. Electronic PDF copies are available on the TDC and NCC web sites.

The first pamphlets were produced in 2010 and the most recent, Pest Insects was completed in 2021. The concept is to provide a photo of the pest and outline what herbicides or pesticides and methods of control to use.

Each pamphlet is divided into pests in our RPMP, and then other pests not in the plan. Print runs are regularly reviewed to ensure they are updated with, new control techniques, chemicals or new pests that have come to our attention. Thus, they are designed to be an information series that are kept current.

Initially there was a reluctance to provide advice on any herbicide or pesticide recommendations, but it was decided to offer the advice with the inclusion of a 'disclaimer', to cover Councils' liability when chemicals are used at nonstandard rates. Chemicals are named by their chemical name and the back page includes a glossary of chemical brand names. The back page also includes useful web sites, specific safety advice, and general information points. Each Pest Plant species includes individual National Pest Plant Accord NPPA status, if it is designated.

The Pest Tree pamphlet was a particular challenge as there was a lack of information for most of these trees, on what; methods of control, herbicides, and concentrations to use. Ken conducted poisoning trials and finalised the new treatment methods.



Ken Wright with the Peter Ingram Award and some of the reasons he won it.

The pamphlets have proved invaluable for educating the public about what are pests, and what they can do to get rid of them. Often when answering public enquiries, we can mail a specific pamphlet to answer their query. Our Biosecurity Officers carry copies of these series in their utes, ready for distribution to occupiers in the field. **New staff have also found them helpful, as to what pests to keep an eye out for and what method of control to use.** When we have educational display days such as A&P Shows or public field days, these pamphlets are available as takehome educational material.

Dedication to protecting threatened braided river birds earns WMIL the Peter Nelson Memorial Trophy

Environmental company Wildlife Management International Ltd has won this year's Peter Nelson Memorial Trophy.

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.

Here below is the Award Citation prepared by the Canterbury Branch:

Wildlife Management International (WMIL) is a leader in the protection of braided rivers throughout New Zealand.

They are experts in the control of predators which threaten this vulnerable ecosystem and lead the way in monitoring techniques of our threatened braided river bird species. WMIL are true advocates for New Zealand's threatened fauna and are passionate in all aspects of their work. WMIL excel at the control of mammalian predators (feral cats, rats, hedgehogs, mustelids etc and challenging and adapting best practice where needed to gain the best results for our threatened **braided river bird species**. **This ecosystem can be very difficult to protect and work in.**

They are experts in southern black-backed gull control and are contributing to the development of best practice guidelines for Canterbury.

Their dedication to the protection and enhancement of New Zealand's threatened



Peter Nelson Award winners from Wildlife Management International: Baylee Connor-McClean, Sara Larcombe, and Shannon Ritter, with Frank Visser from Key Industries who presented the Award

braided river bird species (black-fronted tern, black billed gull, banded dotterel etc) and the environment in which they reside is world class and we would like to truly thank the team for their mahi in this

area. Without WMIL, we would be miles behind in the conservation of our braided river bird species and how best to protect them.

The trophy is a carved kokako standing on a limb above the skulls of small predatory mammals - a rat, a possum and a stoat. The trophy was designed and made by Mr Ray Weaver.

NETS prize of bait stations is heading a very long way south

Sharon Trainor from The Department of Conservation was one of two winners of the prize draw at NETS2022, for ten bait stations.

Here Sharon talks a little bit about her work and the work she plans to put the bait stations to.

I live in Invercargill and work for the Department of Conservation. My role is Ranger, Biosecurity/ Compliance and I manage the Southern Islands Quarantine Store. I will be able to add some of the bait stations to the numerous ones that I have both inside and outside of the Quarantine Store. It is really important to keep the Quarantine Store clean and rodent free, as this is the space used for all Southern Island quarantine.

The New Zealand Subantarctic Islands are mostly pest-free islands. Island biosecurity is the mutually dependent suite of measures we apply to prevent pest invasions on islands. Quarantine applies to all people, cargo, equipment and transport to and from the Subantarctic and outlying Islands. All gear goes through the inspection process. The inspection ensures the removal of soil, seeds and vertebrate and invertebrate pests has taken place. Appropriate clothing and gear is washed in a biocide to eliminate pathogens.



Kill the rats to get the stoats

Taylor Blyth from the West Coast Regional Council was one of two winners of 10 bait stations in the prize draw at NETS2022, for ten bait stations.

Below Taylor describes the Council's plan to put them to good use:

A five-year project run by West Coast Regional Council aims to halt the decline of endangered and threatened species in the Lake Brunner Catchment with a focus on Mt Te Kinga. The Pied Piper bait stations will work well here, as the rat populations are able to replace themselves by the time the field team return to a site. The plan will be to use these stations to keep bait dry in the West Coast conditions, which should continuously poison rats, and keep their numbers low enough to increase the stoat catch. Currently, rats are filling up traps faster than stoats can get to them.



Conor Downes and Kevin Cohen with the bait stations destined for the Lake Brunner area on the West Coast.

Two prize draws, each of ten bait stations, were offered at NETS2022 by Key Industries

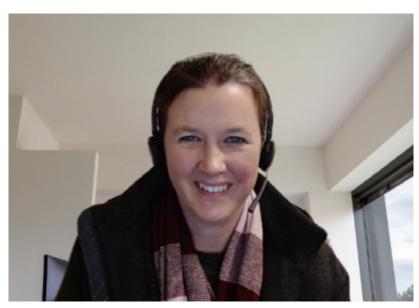
Best presentation, and she wasn't even there

Sophie Badland from New Zealand Winegrowers won the Stook award for best presentation for her talk on behaviour change in the wine Industry.

She said the industry has been relatively fortunate to develop with little impact from exotic pests and diseases, with some exceptions. NZ Winegrowers has developed a biosecurity strategy to maximise the benefits of the biosecurity system.

"We would like to promote the ides that **industry bodies that operate proactively can influence and play a role in broader biosecurity goals** across New Zealand."





Sophie Badland beaming in her presentation from next door

Sophie was doubly deserving. Upon arrival in Christchurch, she found she was a household Covid contact and had to isolate immediately. Her presentation was beamed in from her hotel next door. "It was quite a challenge," she said.

"I'm looking forward to picking up the award soon. My main reaction was surprise, given I gave the presentation blind to audience reaction or engagement, and then I felt very privileged when I heard some of the history behind it. It took a bit of the sting out of not being able to actually attend the conference and see the other presentations; it was my first NETS so I was most disappointed not to be able to go."

The Stook Award is a carved staff with names of the winners engraved. It reads like a who's-who of biosecurity, according to those who have held it. It was carved by member Robb McGuiness.

The engraving says:

Presented to Institute of Noxious Plants Officers 35th Training Conference, Tauranga 1984 by Robb McGuinness, Waikohu DNPA for Most Outstanding Paper Presented by an Officer. Peter Farrell, from Rangitikei DNPP was the first recipient.

President's Report

Members' commitment, dedication and drive is inspiring.

It is fantastic to be here and to have a conference, a reunion, in person. It has certainly been a challenging two years, but it is great to start seeing a glimmer of the other side. I would like to thank the Conference Organising Committee and Conference Organiser Carolyn Lewis. This conference is like no other before.

This dedicated group of people have organised this conference not once, not twice, but three

times. Their determination and persistence is evident in the excellent line up of presentations, the selection of field trips and networking opportunities.

Thank you for making these three days possible. Several Executive members have stood down from their roles this year. I would like to thank Alfredo Paz, Jen McGowan and Heidi Pene for their hard work on the Executive Committee. And a huge welcome to our new Exec Committee members who are Branch representatives: Raoul Thomas (Otago/ Southland), Briar Cook (Top of the South), Paul Horton (Lower North Island) and Nick Ward (Auckland/Northland). I hope you will all enjoy being on the Executive team as much as I have.

The ups and downs of Covid-19 continue to force us to adjust how we carry out our work – from virtual meetings and conferences to increased remote surveillance, we continue to adapt and change the way we work. The past two years have shown how we can successfully adapt and continue our critical work of biosecurity.

The number of people attending this conference, well over 200, also shows the importance we place on knowledge sharing and networking.

After three years in the role of President I feel it is time for me to step down. I have enjoyed this position immensely and it has further connected me to the members of the Institute and provided me with a more in-depth look at the wide variety of work and the expansive knowledge base the members of our Institute have - the commitment, dedication and drive is inspiring.

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A huge thank you to the Executive Committee for the support you have shown me over the past three years. This Institute continues to grow and strengthen, and I am proud to be a part of it.

ALICE MCNATTY NZBI PRESIDENT



Relieved about more freedom:

Secretary's Report

Another year has rolled by, with everyone feeling relieved about more freedom after Covid lockdowns and the new norm of mask wearing and hand sanitising. Fingers crossed that we remain lockdown-free as well as Covid and flufree going into the future.

For those of you who have been challenged both personally and professionally, I hope the future brings more certainty.

Apart from creation of agenda and minutes for meetings, a rewarding role as secretary is the circulation of vacancy notices to members. I encourage everyone to spread the word of the circulation to members as being free of cost, or alternatively placement of an advertisement in the NZBI Protect magazine at a reasonable fee.

With our excellent virtual Zooms skills most of the Executive Committee meetings have been on-line and I am sure I can testify for all present that **the opportunity to meet for an in-person NETS conference has been a welcomed goal for 2022.** To the Christchurch NETS organising committee, I applaud you for persistence in hosting the conference. As you will hear later in the meeting, Jono, Heidi and I have been continuing to work on the draft the NZBI Governance Guidelines to accompany the NZBI constitution. This document aims to provide details of the process and functioning of the NZBI to support ongoing standardisation for both the executive, branches and general members.

It is with great sadness that Alice is stepping down as president of the Institute. Alice has contributed significantly to the running of the Executive Committee and the Institute as a whole and I would like to thank her for her support in my role. Alice, it has been a pleasure working with you and I wish you all the best for the future.

I have again enjoyed the last year within the secretary's role and I'd like to take the opportunity to thank the Executive team.

I wish everyone the best of luck for the upcoming year.

DIANE FRASER NZBI SECRETARY



We must fight to keep our landscapes

Biosecurity Week 2022

The NZBI prepared this statement in the run-up to Biosecurity Week and NETS2022.

New Zealand landscapes are in danger of changing forever if we don't keep our foot on the biosecurity pedal.

That's the thoughts of the New Zealand Biosecurity Institute which promotes the activities of its members, who work to keep New Zealand clear of invasive species.

The Institute, on July 25th, launched Biosecurity Week, aimed at highlighting the work of all those involved in the sector. She said most landscape changers are less obvious.

"Freshwater pests like pest fish species and invasive plants are changing aquatic ecosystems, and marine pests can do the same in the marine environment.

"New Zealand now has some ambitious biosecurity goals.

"These goals will continually need new developments in technology such as UAVs, and management innovations like sniffer-dogs or novel control techniques. However, there will always be a need for people power all the way from the thinkers to the doers. That is where the Institute members come to the fore.

"It's also vital to get the community at-large on side and there are a number of community programmes across the country using new approaches which





are having considerable success."

Covid has shown the level kiwis are prepared to go, to respond to a severe risk when they need to. Many biosecurity threats may not be as imminent or carry personal impacts such as a pandemic, but many of them still need immediate response to avoid long term pain. Addressing wilding pines is a classic example," Ms McNatty said.

Institute President, Alice McNatty said New Zealand's natural landscapes are being changed or threatened by invasive species.

She said the spread of wilding pine trees onto some of the country's iconic landscapes is an obvious example.

"Left uncontrolled, they pose a threat to production and native ecosystems.

"In parts of New Zealand, wilding pine trees now require millions of dollars and thousands of hours to control.

She said successes are beginning to show. Community groups and government agencies under the National Wilding Conifer Programme are removing infestations and changing landscapes for the better.



Biosecurity Week is aligned with the Institute's National Education and Training Seminar (NETS) which is being hosted in Christchurch next week.

The three-day annual gathering, the first in three years due to Covid, provides a forum, both for members and others across the industry, to discuss how to improve the management of biosecurity threats to New Zealand.

Profile

An ideal fit and a new set of challenges:

Meet Briar Cook, the new Top of the South Branch Representative on the Executive Committee

Protect asked Briar a few questions about her biosecurity journey.

How long have you been in your job?

I've been a Biosecurity Officer with the Tasman District Council since August 2021.

What motivates you to be involved in biosecurity?

I care deeply about our natural environment, so if there is an opportunity to minimise or completely halt the harmful effects of a biosecurity threat then count me in. I look around and see the proliferation of old man's beard in our region, and that motivates me to prioritise similar pests that are still in the emerging stage, before they become unmanageable. The urban environment is important too, in other ways. **People are eyes and ears on the ground, and so getting the right message to the right people can make all the difference in locating a threat.** For example, a recent Nelson City Council media post about moth plant was seen by a Nelson resident who owned a tenanted property in Tasman, which backed onto what turned out to be the motherlode of moth plant sites for us. We had done a similar media post earlier this year, but the tenants weren't aware of the problem over the fence, which the owner had been battling for around 10 years.

What has been your career path to your current position?

I grew up in the top of the south, and left in 2004 to complete a BSc in Biology. I then completed the DOC Ranger Trainee Course in 2012, and spent three years working for DOC around the North Island. In 2015, I took on a role with Zero Invasive Predators, initially as field ranger, then Science and Technical Ranger in the Innovation Team. Six years later, housing affordability in Wellington and a desire to be close to family brought me back to my home region. This role was an ideal fit for my existing skills, while providing a new set of challenges.

What makes up a normal day for you?

I'm lucky enough to have a role that greatly varies day to day. One day I might be in an urban church garden digging up madeira vine nodules, or disappearing into a hedge in Murchison looking for blue passionflower seedlings (see photo); the next day responding to enquiries from the public about pest ants/cats/weeds/insect IDs/rook sightings etc, or writing an article for social media on a particular pest.



Briar Cook believes in fully immersing herself in her work.

What do you enjoy the most about your job?

I really enjoy the autonomy of the role, and the hunt, if you like. When you get a gut feeling that there might be something invasive lurking in a particular patch of habitat, or someone's property has a certain niggly feel about it, then you go check it out and it's harbouring a target species, that's a big buzz for me. I also love bringing bags of moth plant pods or sprigs of Himalayan balsam I've found in a tiny side stream back to share with the team – we have a great team here who are all very passionate, so we all enjoy those little successes.

Some people say that we're fighting an uphill battle, particularly with weeds, but I like to think of our region, or indeed all of New Zealand, in terms of what it would look like right now if nobody ever did anything because it was too hard. What we do does make a difference, and I enjoy seeing that difference through facilitating landowner understanding, ownership and active participation in control

efforts.



Briar Cook has a passion for her work.

Archives

The Institute of Noxious Plants Officers Inc.

Don't give up in the face of change

In these times of change it is important for Noxious Plants Officers to maintain a high profile within the Council organisation and the community at large. Promote yourselves as custodians of the environment, people who have the expertise to generally advise occupiers on all phases of weed control, not only Noxious Plants. Point out the various functions co-ordinated by you as the Noxious Plants Officer, e.g. Clematis eradication programmes, chemical tenders, educational awareness, to

But above all, don't give up.

Editor's Note:

Institute of Noxious Plants Officers Inc. Newsletter Number 2, September 1987

The Institute of Noxious Plants Officers Inc.

Maintain an appearance of Unity

Regarding an Institute submission to M.A.F. Qual. on the future of Noxious Plants Administration in New Zealand.

It is safe to say that Government has a desire to integrate the pest and weed management organisations, perhaps the time is getting nearer when consideration should be given to having some form of dialogue with say, supervisors from the pest movement to ascertain their feelings regarding the need to amalgamate our respective organisations for the benefit of all concerned. In this period of uncertainty, it is important that we as an Institute maintain in public at least, an appearance of unity and keep our inevitable differences to the many forums provided for open and frank discussions.

> Editor's Note: Institute of Noxious Plants Officers Inc. Newsletter Number 3, December 1987

The Tail

Mr and Mrs Climate emerged after a long lockdown, to reunite with friends. They were hotter and angrier than usual.

"They've changed," whispered a friend.

"Predictable mumbled another.



Find us on the web at www.biosecurity.org.nz