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The New Zealand Biosecurity Institute can be found on the web at [www.biosecurity.org.nz](http://www.biosecurity.org.nz)



# SAFER, SMARTER RABBIT CONTROL



Rabbits have reached plague proportions in some areas and cost the country millions of dollars through lost production on farmland as well as through attempts to control them. Rabbits have a significant effect on the ecosystem and cause large areas of land to become eroded and native vegetation to change. When rabbits are seen active during the day this indicates a high population.

Pindone is a first-generation, slow-acting anticoagulant poison in a cereal-based pellet, designed for the control of rabbits in rural and urban areas. It needs to be consumed over several days to be effective, around twenty-one pellets need to be consumed by a 1.5kg rabbit before death occurs. It is important to keep the bait stations filled as death occurs 4-11 days after bait consumption. Very few rabbit carcasses will be found as rabbits return to their burrows to die.

Pindone Rabbit Bait must be used in bait stations. In cases where there is concern about bait being accessible during the daytime, the NoPests Multifeeders bait station can be closed off to stop nontarget species accessing the bait. If large areas need to be treated then consider using aerial or ground applications using a registered applicator, this will allow baits to be spread on the ground.

## SMARTER THAN 1080

	PINDONE	1080
No Pre-Feed Required	✓	×
Stock Re-Entry Time	28 Days	90 Days
Dog Antidote Available	✓	×
Ground Application (CSL Required)	✓	✓
Aerial Application (CSL Required)	✓	✓
Bait Station Application Available to Public	✓	×
Pellet & Liquid Formulations Available	✓	✓
Rate per Hectare	Up to 18kg	Up to 15kg
No Clean Up Required. All Bait Consumed.	✓	×
Type of Vertebrate Toxic Agent	Multiple Feed	Single Feed

## ■ FROM THE EDITOR

# Listen to the past

"The reason history repeats is that nobody listens the first time."

I like that phrase. A few people over the years have taken credit for it. I imagine it is as old as history itself.

During this year it has been my pleasure to interview several senior past and present members of the Institute and its predecessor organisations. In this issue is an extract from an interview with Life Member and former Vice-President Murray Turner. I have also spoken with former North Canterbury Plant Pest Officer John Clapham who has had a long involvement with nassella tussock control, among other pests. I also chatted with Graeme Guilford from South Canterbury, who has had significant involvement with wallaby control.

My chat with new Life Member Paul Champion also brings a scientist's view to the development of the sector.

It is interesting to see just how much things have changed over the years in terms of technology, funding and health and safety, among other things.

Most stories have one theme in common: **the foot needs to remain firmly on the pedal.** It is important to know the history of pest control in order to realise how much has been achieved, and that things cannot be taken for granted.

These interviews join the Institute's growing collection of stories from senior members.

**CHRIS MACANN**  
EDITOR

## ■ FROM THE PRESIDENT

# Thanks, congratulations, and it was an honour

It was great to see so many familiar faces, and new faces, at NETS2023 held at Waitangi.

Highlights for me was to experience the hospitality both at Waitangi and the wider Bay of Islands community. In particular, for organising committee Chair Nick Ward and myself to have the opportunity to be part of the welcome inside Te Whare Runanga, what an honour. It is a location very significant for all New Zealanders.

Congratulations to the winners of the NZBI legacy awards announced at the NETS dinner evening. These are important to the history of NZBI and in a way, show where we have come from and how we have evolved as an organisation. Being volunteer run, that evolution can sometimes seem slower than the shaping of the wrybill's beak... but we all need to look for those improvement opportunities.

I would particularly like to congratulate Paul Champion on receiving a Life Membership. As part of the ongoing NZBI archiving project, an hour-long voice interview was recorded while he was with us at Waitangi covering his contribution to biosecurity and NZBI over the years.

Of note recently, has been the significant challenge posed by the incursion of the freshwater gold clam. This is on top of the other major recent issue in the marine environment with Exotic caulerpa. Challenging, is probably understating the situation with both of these, as it does humbly demonstrate how prevention has to always be aimed for when it comes to invasive species in the 'wet' domains.

As a side note, I was involved in judging the 2023 NZ Biosecurity Awards and it is great to see so the passion and hard work going in from across the sector from researchers, volunteers, professionals and even kura and kindergartens. Knowing the breadth of great work our NZBI members undertake all-year-round, I encourage you to look at these annual awards as an opportunity to showcase the work in the biosecurity system.

The Executive Committee, at its meeting on 22 November to, among standard business, reviewed and discussed the results of the recent member survey. The committee members have been primed to think about some strategies informed by the results as to how NZBI is tracking and where it could go.

Keep up all the great work and remember to every now and then, stop, reflect and connect with others.

**JONO UNDERWOOD**

NZBI PRESIDENT

## Canterbury/Westland catch-up: Thank you Keith and Kevin

Around 25 members of the Canterbury/Westland branch met in August to have a winter catch up and discuss learnings from NETS2023 at Waitangi. **The get together was also an opportunity to show appreciation for branch members Kevin Gallagher and Keith Briden, who have both recently retired** after long and significant contribution to biosecurity and the Institute.

Both Keith and Kevin were on the NETS2022 organising committee and lent their years of experience in the NZBI and biosecurity to plan the field trips and the conference programme.

Keith was also the key instigator and chief motivator of the branch's long running community revegetation and weedbusting project on Christchurch's Port Hills at Taylors Mistake.

Kevin was also on the organising committee of NETS2013 on the West Coast, and both have been presenters at NETS and local mini-NETS.

It was a fun networking night, but we are aware that our branch covers a wide region. **We are keen to involve and have branch activities in other areas across Canterbury and the West Coast**, and are always looking for suggestions for this.

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**Keith was also the key instigator and chief motivator of the branch's long running community revegetation and weedbusting project on Christchurch's Port Hills at Taylors Mistake.**



*Kevin Gallagher shares points of interest with Alice McNatty and Woody Weed from the Trans Alpine train during NETS2013.*



*Enthusiastic as always, Keith Briden.*





## Thank You for Your Encouragement and Support: Remembering Mel Galbraith



Long time NZ Biosecurity Institute member and keen supporter, Mel Galbraith, died far too early, in September 2023.

Mel will be remembered for his dedication to the Institute and his encouragement of students to attend NETS, and to join the Institute. **He has played a large part over the years, along with colleagues, in introducing new members to the Institute.** He has organised many scientific conferences and forums, including NETS.

Here are some tributes from his colleagues:

Mel gave freely of his time and expertise and was a highly respected researcher and teacher in the New Zealand ecological community. Mel was an incredibly humble man, who gave so freely of his time, energy and legendary knowledge to protecting and enhancing New Zealand's biodiversity, and genuinely cared for, and touched so many people.

Mel has been involved in critical New Zealand ecology and conservation research, particularly the world-leading restoration research on Tiritiri Matangi Island. His restoration research has changed how New Zealand conservation groups undertake restoration projects, and his research on conservation volunteers has stimulated a body of research on conservation

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volunteering and citizen science. He also identified a gap in biosecurity research publications in New Zealand and showed considerable leadership to co-found a new journal 'Perspectives in Biosecurity'. **Mel has shown real leadership in developing biosecurity capability in New Zealand, through his inspiring teaching,** pastoral care and career mentoring. Many of the students he has taught are now in the biosecurity industry, protecting Aotearoa from pests and diseases.

As a member of the Auckland Conservation Board, Mel used his science to inform policy and research direction. This a key role for any scientist. Incredibly, Mel has been a founding member of many community conservation Trusts, including Supporters of Tiritiri Matangi, Motu Kaikoura Trust and Miranda Naturalist Trust. Mel has fulfilled many roles in the New Zealand Ecological Society from 2005-2015, including a term as President. He has also had similar roles in the Ornithological Society of New Zealand (Birds NZ) from 1996 to his recent role as a Council member.

## If the Land is Well and the Sea is Well the People will Thrive

The New Zealand Biosecurity Institute prepared this media release to promote Biosecurity Week ahead of NETS2023:

If the land is well, and the sea is well, the people will thrive. That's the theme of this year's Biosecurity Week.

The week aimed at highlighting the work within the biosecurity sector is an annual fixture promoted by The NZ Biosecurity Institute, the networking organisation for people working or generally involved in all aspects of biosecurity.

The theme for the week: 'Toitū Te Whenua, Toitū Te Moana, Toitū Te Tangata - If the land is well, and the sea is well, the people will thrive', recognises the critical role that biosecurity plays in protecting te taiao/ environment, which is vital for people's wellbeing.

As well as highlighting the work of people working in the sector, the week aims to acknowledge the work done among local communities and mana whenua to improve the health of the land and water, through activities supporting biosecurity.

Biosecurity Institute President Jono Underwood said it's vital to get people onside, and there are a number of community programmes across the country using new approaches which are having considerable success.

The week centres around the Institute's annual networking and training event, NETS, to be held at Waitangi.

Mr Underwood said **the location of this year's conference is particularly apt as agencies in the Bay of Islands are presently battling the new invasive seaweed species, Caulerpa.**

**"This invasive seaweed example shows how broad the biosecurity sector is.**

"As well as managing pest animals and plants like alligator weed and wallabies, the biosecurity sector covers border control, animal and plant disease management, and freshwater and marine pests."

Mr Underwood said some hot topics at present include wilding pines, kauri dieback, *Mycoplasma bovis*, the invasive species of gold clam and wallaby containment.

"Good science and constant vigilance are the secrets to keeping the country's invasive species threats under control."

"As well as needing new technology like drones, and innovation like sniffer-dogs, the sector will always need people power."

Mr Underwood said **the conference will look at how communities and technology can be best used to help people in the sector do their work.**

"Every year Institute members spend thousands of hours controlling or managing the risks to the economy and the environment from the effects of invasive species."

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**" Good science and constant vigilance are the secrets to keeping the country's invasive species threats under control."**



## Lots to see and share

More than 200 delegates converged on Waitangi for the 72nd NZBI National Education and Training Seminar (NETS). The theme for the gathering was: 'Toitū Te Whenua, Toitū Te Moana, Toitū Te Tangata - If the land is well, and the sea is well, the people will thrive, Waitangi was a fitting site for the conference.

A hiko around the Treaty grounds and korero set the scene. It was an opportunity to gain more knowledge about the history of Waitangi and the significance of the Treaty partnership for the country's biosecurity work.

The group was welcomed at Te Whare Runanga on the upper grounds of Waitangi. The whare is the historical site of important hui for locals and visitors. It marked the beginning of an interesting few days with a challenge to share the knowledge gained and an invitation to experience a distinctive taste of tikanga Maori.

President Jono Underwood and organising committee chair Nick Ward welcome delegates, inviting them to make the most of new contacts, to solidify existing ones, and to share knowledge and expertise.

In the opening address, Deputy Chair of Northland Regional Council, Jack Crow, spoke about the importance of the community's role in surveillance and the need to work collectively, and to embrace both western science and Mātauranga Māori. He noted that only New Zealand and Australia have an integrated biosecurity system at every level. He said there are many known organisms in New Zealand, but their threats are not determined. He suggested MPI needs to work closely with regional councils and other affected parties in order to speed up decision making on incursions. "The biggest gain is through mahi tahi, working together."

A new workforce out of the old undergrowth was the title of a prerecorded message from former CEO of Te Runanga o Te Rarawa, Haami Piripi. He proposed that a treaty based relationship is the most appropriate vehicle for engaging with Maori on biosecurity matters.

"And right now, my friends, we need better solutions to combat unpredictable atmospheric changes and unprecedented weather related events which, as we know, have a direct impact on biosecurity."

Mary de Winton from NIWA asked, "What legacy are we leaving our lakes?" She provided some hope that it is not an invaded future. "Success for managing aquatic invasive species in lakes depends on evidence based decision making, expanding management approaches, adopting new technologies and retaining all effective control tools."

Sessions on **partnerships** covered kauri protection, including research and investigation using a mātauranga Māori approach; supporting iwi in protecting their special places from wilding conifers; collaborating with mana whenua on incursion engagement and surveillance; pest fish surveillance in Northland and lessons learnt so far from the Predator Free 2050 project.



*Brent Glentworth presents "Helicopter wallaby search and destroy with night vision Goggles".*



*A DOC guide explains measures to stop the spread of Kauri Dieback during the Kororipo Heritage Park visit.*

Presentations on **aquatic pests** included biosecurity ambassadors reducing biosecurity risks from cruise ships, enhancing marine biosecurity through a dedicated portal, real-time detection using remotely operated vehicles, and an overview of the weeds that threaten freshwater bodies and what tools are needed to control them.

**Plant pest** sessions covered syncing weed control data from a number of databases including iNaturalist and ArcGIS, the attempts to eradicate golden dodder and an update on the list of conservation weeds from DOC.

In what could have been a spy action thriller, Brent Glentworth's presentation (Helicopter wallaby search and destroy with night vision goggles) about the very high tech and stealthy method of getting rid of elusive wallabies, was **a riveting ride**.



## Getting out there: The field trips

### Project Island Song

Visitors were welcomed onto the whenua of Ngati Kuta and Patukeha at Te Rawhiti Marae in Rawhiti.

Ngati Kuta and Patukeha are the kaitiaki of Rakaumangamanga, the mountain which is the third navigational marker in the Pacific triangle named by Kupe.

The group visited the islands of Ipipiri to see the work of Project Island Song, a partnership between community group the Guardians of the Bay of Islands, Te Rawhiti hapū (Ngati Kuta and Patukeha) and the Department of Conservation.

This partnership works to restore ecological balance to the islands, and bring the birdsong back to the pest free islands. It was an opportunity to see the regenerating bush, and hear the birdsong and spot reintroduced tieke (saddleback), toutouwai (North Island robin), pōpokatea (whitehead) and pāteke (brown teal) among others.

### Kororāreka and Predator Free Russell

The Bay of Islands was settled by Māori in voyaging canoes over a thousand years ago. Kororāreka, also called Russell, was originally a Māori settlement where Māori would come to fish and seek sheltered anchorage. Kororāreka was the first permanent European settlement servicing whalers and sealers. Once known as the 'Hell Hole of the Pacific', it is also where Hone Heke organised the felling of the flagpole above Kororāreka. The visitors saw the work of the Russell Landcare Trust, which has embarked on [a Predator Free 2050 project aiming to completely remove rats from over 800 ha](#) of native forest on the Russell Peninsula.

### Kororipo Heritage Park

The Kororipo Heritage Park at the upper end of Kerikeri Inlet incorporates the Kerikeri Basin, the Stone Store, Kemp House, Kororipo Pā, and Rewa's Village. It is culturally and historically one of the most important sites in Aotearoa. It is a place where Māori and Europeans lived side by side and some of the most important early meetings between the two cultures took place. [It is an example of multi-agencies working together to manage a site in a holistic way](#), supporting Ngati Rehia as the lead. Visitors heard about the history of the site, the cultural significance, biosecurity risks associated with high visitor numbers, and how Ngāti Rehia and many other agencies are managing the site together.

### Community Weeding and Restoration

Visitors looked at a community nursery supplying plants to conservation projects including Project Island Song. They visited the historic Kerikeri Basin area across Hongi Hika's Village and Pā site and onto the Wairoa Stream Track. The group viewed some of Northlands serious weed issues, and walked through a stretch of restored and mature native habitat. A



*Hearing about the remains and preservation of the first power generator in Kerikeri at Kororipo Heritage Park.*

community group is [transforming what was a weed wilderness into a natural habitat and community asset](#). The walkers passed the 'rediscovered' (the surrounding area was covered in jasmine) Te Wairere Waterfall. The visitors heard about the challenges of the project, and the involvement of the community and schools transforming a weedy wilderness into a popular 'wilderness' walk in Kerikeri.

### Biofouling in the Bay of Islands

At the Waitangi Yacht Club, those interested took part in a hull inspection, above the water. They dived into the Level of Fouling (LoF) scale and what makes up some of the biofouling in the Bay of Islands and beyond. They then plunged into a relaxing and healing experience in the world famous (in Northland) hot pools at Ngawha Springs, as guests of Parahirahi Ngawha Waiariki Trust.

### Lodore Farm and Pukeiti Forest

A 700 ha dairy farm in the temperate north can have significant outcomes for kiwi conservation. Visitors saw a 130 ha stand of pristine Northland bush that has been fenced off and intensely controlled for predators, to ensure a remnant population of kiwi survive. Fencing and revegetation of waterways provides corridors for other native birds and increases water quality in the streams. The group visited Pukeiti Forest, where groups are working together around one of Northland's most outstanding remnant ancient forests, to carry out pest animal control (including pig and [goat](#) control), bat conservation, and kokako protection. Boot stations and boardwalks have been installed for Kauri protection.





*A photograph from Josh Wardle's presentation (Enhancing biosecurity for Aotearoa through collaboration with mana whenua on incursion investigations, engagement, and surveillance). Northland Regional Council staff and Te Whānau a Rangi Whakaahu prepping and checking traps during field surveys investigating the incursion of the fish Flatback Mangrove Goby *Mugilogobius platynotus*.*



*A photograph from Randall Milne's presentation on the wilding pine Community Partnership Project led by Motairehe Marae Ltd on Aotea Great Barrier Island. The project is a good example of Mana Whenua providing leadership for wilding control, helping protect wahi tapu sites and a regionally significant fixed dune system. The project also helped create jobs and career progression within the marae company.*

## The Future

More than fifty members attended the NZBI 2023 Annual General Meeting.

The meeting discussed, among other items, the future direction of the Institute. As a result, a survey has since been carried-out, for discussion by the Executive, about opportunities to do things better.

As well, the purpose of reviewing the NZBI Governance Guidelines was highlighted to members.

The meeting endorsed the Executive Committee for another term, including a later email vote, for the contested position of Vice-President.

## From top to bottom: Maintaining the gains

Otago/Southland Branch chair Raoul Thomas invited one-and-all to NETS2024 at the tail of the country. The theme is "Maintaining the Gains" to include the challenges and successes of maintaining gains. Otago/Southland will host the gathering in Invercargill from 24-26 July 2024.

The gathering was bought to a close for another year with a whakawātea from Ngati Kawa Taituha who cleared the pathway for a safe return home.

*"I'm left with a sense of hope for the future. Talk about vigilance in the pub, your sports club, your knitting circle."*

*Nick Ward, organising committee chair*



*NETS2023 Organising Committee Chair Nick Ward addresses delegates and tangata whenua inside Te Whare Rūnanga on the Upper Grounds of Waitangi.*



## Well earned: Life membership for Paul Champion

Long time NZBI member Paul Champion's service and dedication to the NZBI was rewarded with a Life Membership.

Here are some of Paul's comments on receiving the recognition.

"It is an absolute honour to receive Life Membership from the New Zealand Biosecurity Institute. I have been involved in the Institute since 1988 and was part of the Executive over the early-to-mid-2000s. I have attended and presented at most NETS conferences, been on the organising committees for several North Island NETS and was awarded the Peter Ingram Award in 2007.

**Attending NETS, and NZBI membership is a must for anyone working in the biosecurity industry**, including practitioners, researchers, managers and policy makers. NETS has been a very important part of my career, being able to present research, talk to colleagues about recent developments and future directions and also have a great time! **The current NZBI leadership team is doing a really great job and I wish all members well for the future** - keep up the awesome work you are all doing to protect Aotearoa New Zealand."

While at NETS2023 Paul shared highlights of his career and his thoughts for the future of the sector in an hour-long recorded interview for the Institute's ongoing oral history project. A story honouring Paul's contribution to the Institute and biosecurity appeared in the previous issue of Protect Magazine.



Paul Champion receives his NZBI Life Membership Award from President Jono Underwood.



^ NZBI President Jono Underwood accepts the challenge.



< NZBI President Jono Underwood replies to the welcome inside Te Whare Rūnanga on the Upper Grounds of Waitangi.

^ Travis Ashcroft of Biosecurity New Zealand explains how research adds value to making Aotearoa wallaby-free.







eTrapper



Smart Predator Solutions

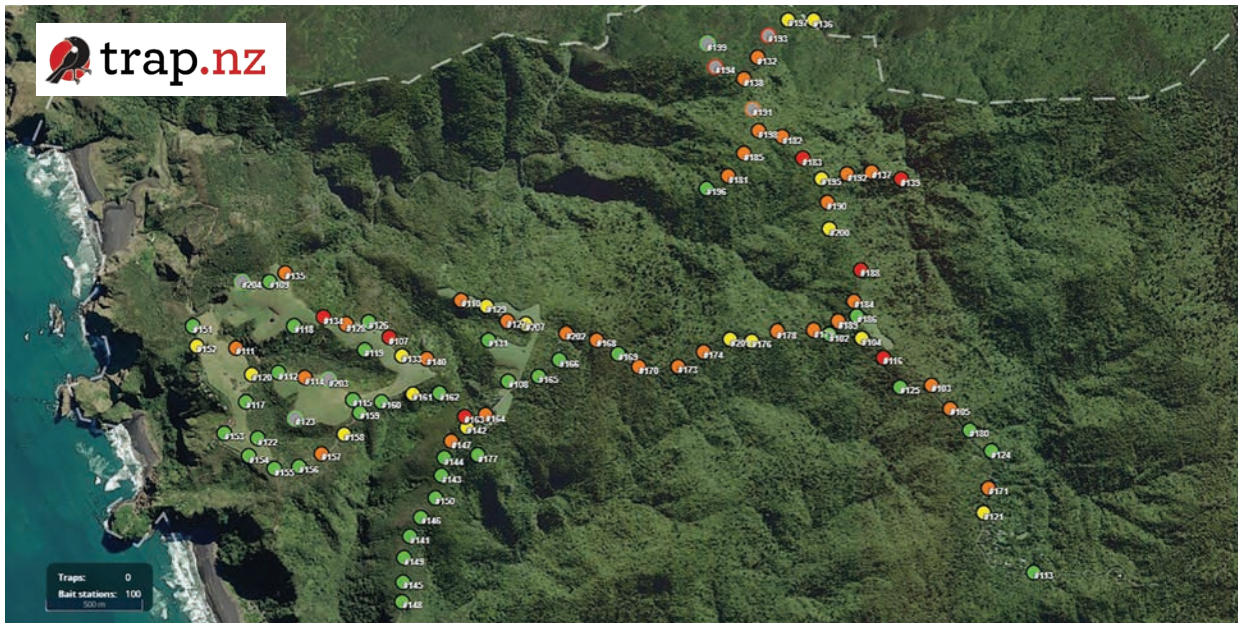
# Baitsense<sup>TM</sup>

## Remote monitoring of bait stations



- Save costs by servicing bait stations that have high take
- Identify areas of high activity for increased control activities
- Accelerate your predator eradication outcomes

### Near real time view of bait station levels across projects within Trap.NZ platform







*Ronny Groenteman, Paul Champion and Mike Ulrich.*



*Randall Milne and Kate McAlpine.*



*Hamish Lass and Marcus Girvan.*



*Brent Glentworth and Pete Caldwell.*



*Duncan McMorrان from Connovation explains his wares to Sian Reynolds.*



*Josh Scarrow, Rauri Flynn and Anaru Rawiri.*



*Hamish Hodges and Rich Langley.*





# NETS2023



Wiremu Keretene and grandson.



The team from Connovation.



Some of Boffa Miskell's finest: from left Jourdan Leithbridge, Sian Reynolds, Beth Williamson, Bec Simpson, Robin Pieper.



Tahu and friend.



Rose Pearson and Bec Simpson.



Cheryl Leatham.





*On the beach at Waiwhāpuku Army Bay.*



*Marcus Girvan and Deborah Hofstra.*



*Phil Wisker and Catherine Bradley.*



*Dan Edwards and Clayton Rameka.*



*Alfredo Paz and Kirk Robertson.*



*Hamish Hodgson leads the charge.*





## Kauri was the winner on the day: Waikato Regional Council Kauri Protection Team wins the Dave Galloway Innovation Award

The Waikato Regional Council Kauri Protection Team received the 2023 Dave Galloway Innovation Award for its virtual reality experience created to raise awareness about kauri dieback.

Kauri Pou Kaitiaki has been developed to engage audiences and support kauri protection mahi in the Waikato and potentially nationally in a risk-free setting.

The development of Kauri Pou Kaitiaki involved WRC's Kauri Protection Team working alongside a Māori advisory group to help tell the traditional story of kauri. It also involved working with ecologists to ensure that the ecology of a kauri forest is represented as closely as possible, including the presence of associated species and creatures such as epiphytes, the giant wētā and kōkaha or kauri grass.

Digital technology studio, Waxeye, compiled the key elements into an eight-minute, fully immersive, 360° virtual reality (VR) experience. The experience has three parts:

### PART 1: In the beginning / I e ōrokohanga

Starting in the ocean this section tells the traditional story of kauri, describing how **kauri and whales are brothers who remain interconnected, despite being separated**, with whales living in the ocean and kauri growing on land. This scene then transitions to an ancient forest with large mature kauri including moa and huia, a glimpse into "what once was" and capturing the essence of the Māori proverb "Ka mua, ka muri" which means looking back in order to move forward.

### PART 2: Here and Now / Ā moha nei

This interactive game section teaches in a fun way that removing 100% of dirt is the most important action people can do for kauri. This part of the VR was developed after reviewing social science research that indicated positive **messages were more likely to influence behaviour change**.



Photos of people experiencing Kauri Pou Kaitiaki at the Fieldays.



Members of the Environment Waikato Kauri Protection Team with the Dave Galloway Innovation Award.



The game allows people to 'practice' the desired behaviours in a virtual setting and then carry that knowledge out into real world situations around kauri areas.

### PART 3: Into the future / Raurangi

Once users have shown that they can clean 100% of dirt off their shoes, to ensure that they are protecting kauri from the spread of PA, **they are rewarded with a journey into the future of a thriving kauri forest; one that is entirely possible if we all play our part to save kauri.**

The user finds themselves in a waka which they can paddle, and which eventually floats over a futuristic kauri forest, that generations to come will get to experience if we all play our part to protect kauri.

Each part of the VR experience is narrated, adding information to the story and providing navigational guidance to the user, making it suited to a wide range of ages (8+ years old) and technological abilities. Narration is also provided in the form of a chant that tells a story (oriori). The experience is accompanied throughout by music played on traditional instruments (taonga puoro), which provides an authentic traditional Māori sound.

The purpose of the VR project is to:

- Spread the message of kauri protection in a unique and positive way, giving people hope for the future of kauri.
- Educate users around the importance of cleaning all dirt off footwear to encourage a behaviour change, and get them to role play the positive and required/desired behaviour.
- Provide a positive and risk-free experience of a kauri forest.

We believe the kauri virtual reality experience is an extremely effective tool to facilitate connections between users and kauri in a way that, importantly, provides zero risk to kauri (no spread of dirt) and is crucial due to many tracks closing to the public.

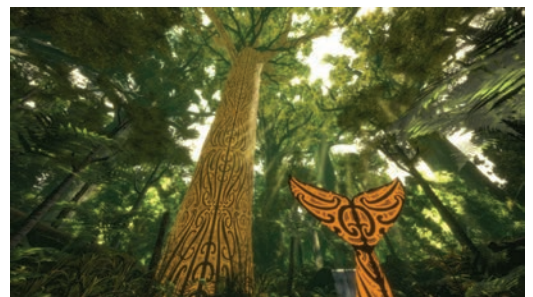
Kauri Pou Kaitiaki was launched on 12 June 2023. That same week, Kauri Pou Kaitiaki, was then displayed at the 55th annual Fieldays where approximately 500 participants experienced it over the four days, and responded with overwhelmingly positive feedback, proving the tool to be a popular and captivating resource.

Kauri Pou Kaitiaki will be available as part of an education programme in schools and kura and rural and community events.

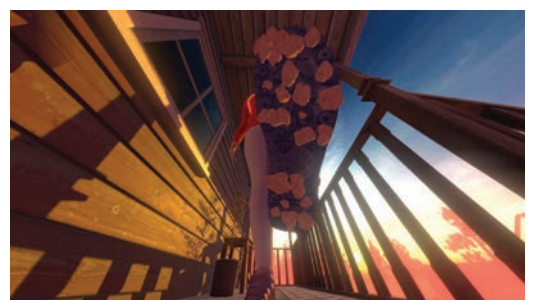
The Dave Galloway Innovation Award is designed to recognise innovation in biosecurity. It can be presented to an individual, group or organisation. Past winners include Te Tira Whakamātaki (TTW), the Māori Biosecurity Network, and Rusty the Velvetleaf Dog.



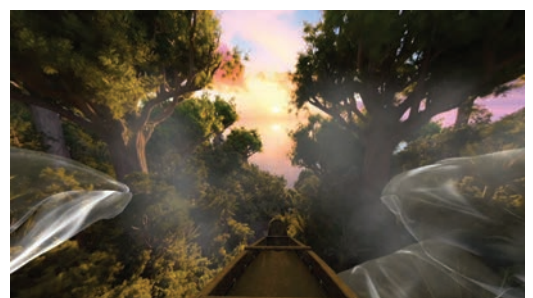
Screenshot from Part 1 in the ocean with the whales.



Screenshot from part 1 with the transition from the ocean to an ancient kauri forest.



Screenshot from the game in Part 2.



Screenshot from Part 3 with the waka floating above kauri forest with whale.



## Shooting Trophy

### Waratah Cup

The Waratah Cup was presented to an NZBI predecessor organisation in 1978 by Rod and Margaret Philip. Rod was affectionately known as Waratah and it was his by-line signature for many articles and anecdotes he wrote for the pest destruction industry. He was a tall rangy man and a real outdoors person. He started his career on the Conway Rabbit Board in North Canterbury in the 1950's and this is likely where the 'Waratah' moniker might have started.

The Cup was presented to the winning team of the postal shoot run by the NZ Pest Destruction Boards from the late '70's into the 80's. After the postal shoot was rekindled in 2023, the Waratah Cup is once again up for grabs by teams from NZBI Branches around the country, again via postal shoot – or more accurately, email shoot!

\* A special thanks to Ray Cleary for supplying his understanding of the history of the Waratah Cup above.



*Liam Falconer with the trophy for best individual score.*

## The Stook Award: All about a common purpose

The stook award for best presentation by an Institute member went to Mike Urlich, who accepted on behalf of himself and co-presenter Te Kaurinui from community group Akai Tai Here. The pair told the story of how a Waka Hourua complementary collaboration led to the formation of a tangata whenua environmental team based at Whangārei Heads. With support from a number of environmental agencies including DOC and Northland Regional Council, group members trained in predator control and environmental weed control enabling habitat restoration on native habitats. Their story highlighted some of the outcomes and benefits of the work, and showed how **reciprocal support and cultural respect can work when it has a common purpose.**



*Some of the Aki Tai Here team. Mike Urlich at left beside Te Kaurinui, holding the Stook.*



## Excellence in Vertebrate Pest Management: Eric Dodd receives the 2023 Peter Nelson Award

The skills developed during a long career in predator control won Eric Dodd the Peter Nelson Memorial Award for achievement in Vertebrate Pest Management.

Eric recently retired from more than forty years of continuous service to the Ruapehu district, the wider Horizons Region, and other parts of the country.

Here is a summary of his achievements penned by his colleagues

Eric has been one of the solid achievers in pest management in the Central North Island and beyond for 46 years, and must be considered one of the country's leading experts in vertebrate pest management.

Starting his working career as an Agricultural Pest Destruction Council (APDC) trainee under Peter Nelson's tutelage, Eric chased rabbits with dogs in the King Country, he undertook ground rook poisoning work in the Tararua District between Hawkes Bay and Wairarapa, and learned how to poison and night shoot rabbits in various areas of the South Island.

After successfully completing the traineeship, Eric had developed his pest control skills to the point that a foreman's role was offered to him in Te Anau. Upon accepting the position, he and his family loaded their worldly possessions into a rail carriage and chugged the length of the country to the small town at the bottom of the South Island.

Eric survived the deep South, its dyed-in-the-wool farmers, and the older employees he was sent to lead.

After a few years, an opportunity arose to return to the Central North Island where pest control was administered through various guises of Pest Destruction Boards, to the Regional Council.

His work covered eyeballing Board Trustees with monthly expenditure for dog roll, to spreadsheets for millions of dollars for possum control work. Eric's team had about 60 workers in the heyday of pest animal work.

A huge amount of energy and expenditure was targeted at possum control, but this was important and ground-breaking work in the fight to eradicate bovine TB from cattle and deer herds in the Central North Island.

Eric was promoted to the role of Area Manager which broadened his scope of influence to include overseeing pest plant and soil conservation activities.

Restructuring in the mid-2000s resulted in a change back to a "pest-focused" role, which saw him help with the establishment of Possum Control Operations and a mixed delivery model of internal staff and contractors, delivering pest management over 800,000ha annually; with monitoring every four years. Eric's courage and confidence to delegate and allow innovation from others saw these staff come through the ranks.

Eric said he had been very fortunate to work with some tremendous people over the years and that all of his successes were due to an overall team effort.



*The Peter Nelson Trophy in detail.*



*Eric Dodd with his Award. 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.*



## Fenced in: another tool against wallabies

Earlier this year Environment Canterbury announced the construction of a 48km wallaby exclusion fence.

The fence is the latest development in South Canterbury's war on wallabies. The wallaby exclusion fence aims to contain the spread of the pests and protect the Mackenzie Basin environment.

The fence will follow the western border of Canterbury's wallaby containment area, along the Tekapo/Takapō River system from Lake Benmore through to Lake Tekapo/Takapō. For most of its length, the new fence will replace an existing rabbit-proof one that is over 50-years old and needs upgrading.

Over the past 10 years, wallabies have been spreading out of the containment zone and into the Mackenzie Basin.

"We've seen a significant increase in wallaby reports, and numbers destroyed, in the area. Alongside other control methods, the fence will be crucial for securing containment and reducing further spread," said Wallaby Programme Leader Brent Glentworth.

Once in place, the plan is to focus on progressively reducing the area, alongside some continued surveillance and follow up work outside it.

**Fence construction will take place in stages over a few years,** starting with a 15km section from Grays River north towards Lake Tekapo/Takapō, with two local firms engaged to carry out the first stage.

Community consultation will take place around the fence alignment at the Lake Tekapo/Takapō end, although construction of that stage is not expected to happen for two years.

**The new fence will be 1.3m high, constructed with purpose-built Australian-made wallaby exclusion netting, with an apron to prevent them passing beneath it. It will also be rabbit netted, allowing continued management of this pest as well.**

"The work under the national programme is more than just having teams in the air and on the ground carrying out control and surveillance. **It's also tackling the wallaby problem by investing heavily in research and improving wallaby detection at very low levels while exploring new and improved control methods.**

"Fencing will play a critical role in providing a secure boundary 24 hours a day so we can progressively reduce densities within containment and eliminate the spread on the other side. A similar fence design has been used near Rotorua to progress work on their wallaby issue. It's fantastic we have the opportunity to do this for South Canterbury thanks to the national programme."



*Checking the construction height of the wallaby exclusion fence at 1.3 metres.*



*One of the break-away sections at Edwards stream. Here fence sections (x6) are designed to give way without pulling extensive lengths of fence down in the event of flood. Also, the rabbit netting is clipped to the downstream side, so that grass debris build up will hopefully sacrifice the rabbit netting only.*

The project is expected to cost \$1.4m and is being funded by the Ministry for Primary Industries-led Tipu Mātoro National Wallaby Eradication Programme. It's estimated that the economic impact of letting wallabies spread unchecked could cost the country up to \$84M a year by 2025.



NEW PRODUCT

## Introducing BaitSense™

As part of PF2050's P2P initiative, eTrapper are pleased to bring to market BaitSense™ – a low cost, multi-purpose sensor that reports of the volume of bait (incl. prefeed and toxin) within a bait station e.g. mini Philproof, therefore allowing the operator/user to identify predator activity across bait stations within a project area. Data is supplied from the BaitSense™ device sensor via an IoT network to the Trap NZ platform which displays a dashboard that maps the fill levels of bait stations (in near real-time), thereby allowing operators to make timely servicing decisions that drives productivity and removes labour servicing costs, helping to accelerate predator eradication outcomes. Further information can be found on eTrapper's website [www.etrapper.co.nz](http://www.etrapper.co.nz)



## Thanks for the knowledge: Kerry Harrington retires, but not completely



After 40 years of lecturing and research in weed biology and control at Massey University, Dr Kerry Harrington is retiring as Associate Professor in Weed Science in December 2023.

A number of NZBI members will be familiar with the Understanding Herbicides short course that Kerry has offered since 2010. This course will continue for at least another year.

Although much of Kerry's research in recent years has involved herbicide resistance, he has been involved with many other topics during the last 40 years. He recently finished supervising a project on improving control of old man's beard, and prior to that, had looked at control of great bindweed in riparian zones, and before that, control of Madeira vine. He has also had students work on how best to control weeds around newly establishing native plants. He currently has a PhD student looking at use of electric pulses to kill weed seedlings in cropping, has worked on several projects using weed wipers and on many other research projects such as control of broom and control of ragwort.

Kerry received the Institute's Peter Ingram Award in 2020. 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.



## Caulerpa occupies a lot of minds

From Biosecurity New Zealand's most recent Caulerpa Response Update Newsletter, September 29

It has been a busy time in the response to exotic caulerpa, with treatment trials and removal operations underway, and more operational work being planned.

It is expected that information gathered from this field work will help build a 'toolbox' of techniques and guidance to assist communities with future management of exotic caulerpa.

### Aotea suction dredge trials

Stage one of the first trial operation has wrapped up this week ending September 29, in Tryphena Harbour at Aotea Great Barrier Island.

A team from NIWA, the Cawthron Institute, and suction dredge firm Bay Underwater Services, with the support of mana whenua, have spent the last ten days in September removing the pest seaweed from three defined areas in Schooner Bay, Shoal Bay and Puriri Bay.

**Divers used a device like a large vacuum cleaner to suck up all visible caulerpa in marked plots on the seafloor at the three locations.** They were able to clear approximately 60 square metres of exotic caulerpa an hour, and around 17 tonnes of the seaweed were removed and securely transported to shore where it was disposed of on a rural property near Tryphena.

Following the suction, **parts of the treated plots (approximately 100 square metres in each area) were covered with matting and chlorine granules were inserted underneath.** The mats were lifted the following day. This will enable us to see over time how well suction alone works, compared with the additional use of a chlorine and mat treatment.

All the treated sites will be visited in a month, and then after two months to observe the treatment effectiveness, whether it has affected other species in the target zones, and whether any exotic caulerpa has regrown.

It is too early to fully understand the practicality and effectiveness of the method against the large-scale infestations present in New Zealand. For perspective, at Aotea alone, there are some 820 hectares of caulerpa-covered seabed (equivalent to around 800 rugby fields). The trial cleared just one-tenth of a hectare – the area between the try line and the 22 on one rugby pitch.

**We will need to wait for the full scientific analysis of this trial, and one at Te Rāwhiti, before we can determine where suction dredging will fit in the future management** of exotic caulerpa.



*A diver guides the suction dredge over an area of exotic caulerpa. Photo NIWA*

### Treatment at Port Fitzroy, Aotea

Following their work in Tryphena, the suction dredge crew relocated to the Man of War Passage near Port Fitzroy where they used the suction dredge on two small but key areas where vessels typically visit. These patches of exotic caulerpa were discovered by NIWA in July.

### Te Rāwhiti planning

Northland Regional Council and mana whenua in Northland are well underway planning trials of suction dredging in the Te Rāwhiti Inlet.

A contractor is being secured to do this project and it's hoped that the actual dive work will start towards the end of October.

Operations will be similar to what's been done at Aotea, and the preferred supplier will be able to tap into what's been learnt there.

We are also working with Northland Regional Council to start wider surveillance checks for the presence of exotic caulerpa across the Northland region.



## Kawau Island hand removal

Partnering with Ngāti Manuhiri, NIWA divers were in the water at Iris Shoal off Kawau Island in August and September, attempting removal of exotic caulerpa by hand.

This work has now been paused as progress was very slow and it became evident that hand removal was not going to be effective for use at this scale.

Even though caulerpa coverage is patchy at Kawau, it still covers more than 18 hectares and the divers were only able to clear .1 (one tenth) of a single hectare in two weeks.

NIWA divers will return to the waters at Kawau to check the area that was treated to see how successful the removal has been.

We are now talking to Ngāti Manuhiri on other options for the removal of caulerpa at Kawau Island.

### Strategic Technical Advisory Group (TAG)

A TAG was assembled to advise on what management of exotic caulerpa should look like in the long-term future and a national strategy to achieve this.

The Strategic Technical Advisory Group (TAG) group has been tasked with providing recommendations on future areas of research, how various tools can be used for different scenarios, and the feasibility of the success of these tools. There are experts in mātauranga Māori in the group who are providing important perspectives.



*A diver over one of the treatment plots. Photo NIWA*



*32 A diver over a patch of caulerpa. Photo NIWA*

## Non-compliance can cost dearly

A Pukekohe deer farmer was fined \$12,000 at the end of September for not tagging 278 animals under the National Animal Identification and Tracing (NAIT) scheme.

Under the system all cattle or deer must be fitted with a NAIT tag and registered in the NAIT system by the time the animal is 180 days old, or before the animal is moved off the farm.

## Clam wars



*Freshwater gold clam (Corbicula fluminea)*

New biosecurity protections against the spread of the freshwater gold clam come into effect for Te Arawa Lakes at midday on 10 November, including special measures to protect Lake Ōkātaina.

"The new protections, applied through a Controlled Area Notice (CAN), are in place to prevent this clam from making its way out of the Waikato River and from spreading to neighbouring Te Arawa Lakes," said deputy director-general Biosecurity New Zealand Stuart Anderson.

"The lakes are at heightened risk of the new-to-New Zealand clam species, being about an hour's drive from the 99 kilometre section of the Waikato River where the pest was found in May this year.

"Extensive surveillance by Biosecurity New Zealand indicates that our measures to date to stop the spread have been successful."

Mr Anderson said Lake Ōkātaina, which was closed under a temporary CAN on 1 October, will re open to boaties, who must clean their boat and trailer at a designated wash station in Rotorua before entering the water. **The clean must take place on the same day, and boaties must head directly to the lake from the wash station.** Access to Lake Ōkātaina will be controlled and the lake will be open Friday to Sunday 6.30am to 7pm.

Before entering any of the Te Arawa Lakes, boaties who have been in the Waikato River in the previous 30 days need to clean their boat at the designated wash station.

Mr Anderson says the new measures are in addition to the clam specific Check Clean Dry requirements for any boats that have been in the Waikato River.

Boaties are required to complete an online form to prove they have completed the required wash down before they can enter the lake.

*Adapted from a Ministry for Primary Industries media release, 10 November 2023.*

## Mycoplasma bovis update: The next phase



The Mycoplasma bovis (M. bovis) eradication programme moved to its next phase when OSPRI (Operational Solutions for Primary Industries) took day-to-day control of its operation at the start of November.

M. bovis governance group chair Kelvan Smith said towards the end of October that the programme continues to perform well.

"The number of infected properties has fallen to very low levels and the major activity of the programme will be national surveillance of New Zealand's cattle herd.

"This makes now the right time to look where we can start capitalising on the identified efficiencies and ensure all the partners - DairyNZ, Beef + Lamb New Zealand and the Government, are receiving value for their investment," Mr Smith said.

**The governance group is planning for a National Pest Management Plan (NPMP) to be in place by mid next year.**



## Clean below?

Biosecurity New Zealand has been working closely with cruise lines to ensure their vessels arrive with clean hulls as the busy summer season approaches.

The summer cruise season runs from October to April. Biosecurity New Zealand expects to see 57 cruise vessels from 20 major lines make journeys to New Zealand, an increase of nearly 30% from the 2022/23 season. **It is preparing for 1,194 port calls, compared with 988 during the last season.**

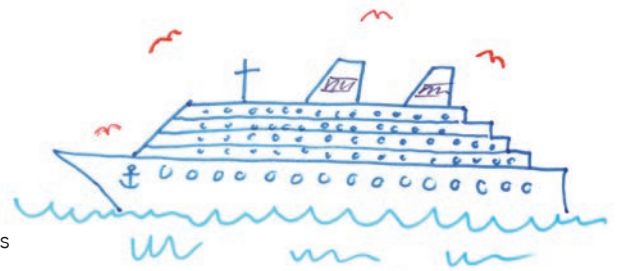
"There has been a lot of effort in recent months to alert cruise lines about their biosecurity requirements, including ensuring they comply with New Zealand's biofouling rules," said Paul Hallett, Environmental Health Manager, Biosecurity New Zealand.

"We know that almost 90% of the exotic marine species already in New Zealand likely arrived here as marine growth on the submerged surfaces of international vessels."

Last season, Biosecurity New Zealand issued notices of direction to 11 vessels for failing biofouling assessments. In some cases, affected cruise ships were unable to visit environmentally sensitive areas like Fiordland.

"The majority of cruise ships visiting New Zealand met last season's biofouling regulations. Those that didn't, worked with us to address failings, and most were able to complete their full itineraries."

He said there is high awareness about New Zealand's biofouling rules among cruise lines this season and a keenness to comply.



"We know some vessels have undergone dry-dock cleaning in the lead up to the season. Others have discussed more frequent cleaning as part of their management plans. And **we had discussions about new scanning technology for underwater hull inspections.**"

Cruise lines must demonstrate they meet a range of biosecurity requirements to gain approval to voyage to New Zealand.

"We've been asking cruise lines to submit biofouling documentation and craft risk management plans as early as possible. This has allowed us to provide early notification of any cleaning requirements, helping avoid voyage delays."

*Adapted from a Biosecurity NZ media release September 14, 2023*



## Murray Turner: A career from learning on the job

As part of the Institute's oral history project, Protect Magazine editor Chris Macann caught up with Murray Turner. Murray is an NZBI Life Member and past deputy president of the NZ Institute of Noxious Plants Officers the predecessor organisation to NZBI.

Here is an edited extract from the conversation:

I saw this job of weed inspector advertised. So, I applied. They said, "Why do you want this job?" **I said I want a nice cushy job 8 to 5 with no hassles.** So, I didn't get the job. The other guy didn't turn up, so a month later Taieri County rang and asked if I wanted the job.

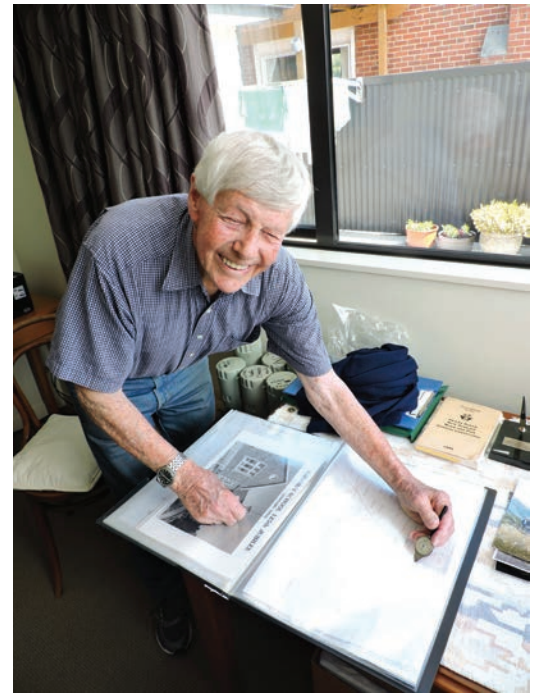
**The first day I was taken out the back and they said "That ute's yours. Here's the key, see you later."** That was my introduction to the job. No induction and health and safety in those days. No come in and meet the office staff. The other thing they said was there was nodding thistle in Middlemarch.

**I had no idea what nodding thistle was. They didn't ask me about my knowledge of plants.**

I was expected to learn on the job, no such thing as training courses then. That was 1974. I just learnt my job from there by asking farmers questions, and they showed me everything. Other farmers would tell me that "He's got a problem" (indicating someone else). "Go and fix his problem." I got on with every single person in the district. If you didn't name a person, you couldn't say he told you, so you had to find out. One farmer would tell me about his neighbour. "He's got nodding thistle all along my fenceline, go and do something about it," but I never went and said such-and-such has told me you've got nodding thistle. I just said through my inspection, "I found these nodding thistles", so there's no way I dropped anyone in it. The quickest way to fall out with somebody is to use someone's name. Some things are self-explanatory if you use your intelligence.

### What were your duties?

My duties were to go and do something about the weeds in the area and then report to the council once a month. That was it. I had to write a report then I had to present it. After a while they decided I didn't need to present it. Along as I had the written report that was enough because they could see I was doing my job, and doing it well. I was forced to do a diary. That was the mandatory thing, **you had to have your daily diary so that you could refer to any interview,** any farmer talk, the reason you were on the farm.



### What did a normal day involve?

Get in the truck and arrive at work early. Then get away to Middlemarch (from Mosgiel) because that's where I started, and from there I spread out. The farmers would tell me about other people further afield. And during council meetings down here in Mosgiel the chairman might say to me that ragwort is very bad on Taieri Plains because of the number of cows around there then. There was a lot of dairy farming on the Taieri then and a lot of market gardens. There weren't many sheep here then. So, then I had to get onto the ragwort side of things.

### Did you have targets or plans?

No targets or plans or rules (the regional pest strategies and plans came later). I just pleased myself. I lived nearby to a ground sprayer and he did a lot of boom spraying of the ragwort and the nodding thistle and also gun-sprayed gorse, broom, nassella tussock and ragwort. He was a busy man. I also engaged three other ground sprayers.

I had quite a lot of freedom, and had to justify it once a month in the report. I had no set hours of work. Every Friday the county engineer would be available in the morning. If I had a problem I couldn't fix, the engineer would ring the farmer and say, **"Murray Turner is employed by us and we rely on him to have the right story, so please talk to him."** And that's all it was.



## What were your working hours?

Hours were 8am – 5pm on a salary, but if I had to be in Middlemarch to see someone, I had to leave in time to get there. It ended up almost 4.30am to 8pm at night.

When I was in Central Otago (Clyde) later, I had to go to Wanaka, Makarora, Glendhu Bay or Glenorchy, it was three hours' drive.

Not much differed from season to season. Winter time was when you did more liaison, talked to more people because I absolutely talked to every single farmer in my area. A heck of a lot of weed inspectors never talked to any. They did it by all writing letters. I did everything by mouth, I went and saw them. Personal relationships, that's the only way. **You start writing to farmers and see how you get on.** I didn't do much wok indoors.

## What about training, equipment and clothing?

I wasn't helped with any of that. Much later on I got my own boots. I had to answer to the county engineer and county clerk, no one else. If they got enquiries, they'd direct me to such-and-such.

I taught myself by communicating with people. I learned on the job.

## Did you have a budget?

There wasn't any budget, I just spent, because the farmers had to spend the money, not me. I just did what I thought I had to, doing the job. That was early in the piece. Later on when I went to the regional council (Otago) it was totally different. I had an order book and I flew 100's of hours in helicopters. I stayed in hotels and motels all over the province.

*The NZBI oral history project aims to capture the memories of senior and past members with interesting stories. The Executive is working on a way of making these audio files accessible to members.*

## Dangerous birds



*Beware of large birds capable of stealing your car. Road sign at Karamea.*

