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Protect Spring 2010

Magazine of the New Zealand Biosecurity Institute

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Editor's Note

Hi everyone, what a time we have just had with the devastating earthquake in Christchurch. I hope all our members in Christchurch are okay and didn't suffer too much loss. Then the tragic loss of nine lives in the plane crash in Fox Glacier. It is times like this you count your blessings.

This year's NETS went very well and everyone had a great time. Thanks again to the organising committee for your great work. The field trips were great, giving everyone a chance to see another part of the country and an opportunity to see how other people work.

This year's life membership went to Helen Braithwaite. Well done Helen, you really deserve this recognition for all the work you have done. Check out her personal profile in this issue.

This is my last edition as editor of *Protect* as I have decided to spend more time gardening and with family. I have really enjoyed my time as editor over the last two years and have certainly learnt a lot. I would like to thank Col Pearson who collates the journal, Carolyn, Craig and Lynley for proofreading, and all the contributors: without you there wouldn't be a journal.

Chris Macann is the new editor – check out his profile. I am sure he will take the journal to another level with his journalism experience. I wish you all the best Chris.

Thanks once again to everyone and if you are ever down in Southland come and visit.

I would like to leave you with a quote I really love from Elisabth Kubler-Ross:

"Learn to get in touch with the silence within yourself, and know that everything in life has purpose. There are no mistakes, no coincidences, all events are blessings given to us to learn from."

> Regards, Lynne Huggins email: <u>folstergardens@xtra.co.nz</u> phone: 03 214 1769 <u>www.folstergardens.co.nz</u>

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News from the Executive

Kia ora and hello from the Executive

Issues flagged

he recent meeting prior to NETS2010 saw a number of topics flagged for discussion. These are recorded in the minutes which are on the website but the main topics are summarised below.

Public liability insurance: It was decided not to pursue a public liability policy for the NZBI. We have undertaken investigations into the availability of packages and the types of cover they allow. There remained a number of grey areas and uncertainty given our unique nature and the fact that most of the NZBI's current output occurs during business hours where members will be covered by their own or their employers' insurance. It was thus decided to create a statement as part of the annual membership form clarifying this position.

Application for branch funding: The team creating a standard form or guidelines for branch funding applications are nearing finishing and once this is available it will be placed on the website for branches to download and use when applying for funds.

Archives Project: Given that NETS2010 was the 60th year of these seminars it highlighted how we do and don't record our history. Since the digital age we have a pretty good record of the goings on of the NZBI. However, this record is by no mean the full history of the shared pasts of the various institutes that make up the NZBI. Ray Cleary, John Thacker, and Dave Galloway are the team scoping out how we can gather the threads of our past and create an archive of the previous 60 years that will help us tell our story at the next milestone year.

NPCA aligning their conference with NETS: This topic has been raised in the past and is now starting to gain some momentum. The idea has come about due to similarities between the animal-focused NETS sessions and the NPCA sessions and also the traditional timing of NETS may be more favourable for contractors and contract managers alike. Aligning the timing will mean a shared experience rather than an assimilation of one organisation into the other and I can see some real gains as we work to make NETS a hub of biosecurity knowledge and best practice for New Zealand.

Protect editorship

This issue is Lynne Huggins' last as *Protect* editor. Thank you Lynne for the work you have put into the last two years of issues for the NZBI members, we really appreciated your enthusiasm and energy and really appreciated how you stamped your own style on to *Protect*.

Policy changes

As discussed previously we have had a look at the outdated GM policy. This investigation brought to life the cost of having robust policy – either in time to members or in cost to a policy writer. This discussion took place at the AGM with the result that we will not continue to have policy as such. The direction the NZBI has decided to adopt is to become more of a conduit for policy discussion through various position statements pointing interested parties and the press to:

 i) those organisations that have an interest in these topics and

ii) to members who are experts and/or spokespeople for the various biosecurity issues that arise.

Executive changes

After our recent Executive meeting and the AGM we have a couple of changes on the Executive. David Brittain our web manager, is now formally co-opted as an Executive member. The importance of the website to our day-to-day function and especially around the time of NETS means having David at the decision-making table is crucial – especially as he normally receives most of the action points anyway. Wendy Mead from Environment Waikato has taken the place of Louise Cook as Secretary. So a big thanks to Louise for being the Secretary for the last three years and all the best as she takes over the responsibilities of Treasurer.

Steven HenryStacey HillMike DoddAmanda Peart
Martin GroundsDave AlkerAnne BrowDale WilliamsJeff CookRonald UyDeryn DromgooleJett Blake

All the best for the coming season.

Craig Davey President Craig.Davey@horizons.govt.nz

President's Report, July 2010

hat a great year it's been, with NETS only nine months apart!

▶ ▶ NETS2009 was very successful and considering the tough economic times we live in, being able to pull off as fantastic an event as the organising committee did was no mean feat. The change in timing for NETS to accommodate the location did throw a number of people and it highlighted the benefits of a consistent date each year.

The last year has seen us run our first GST-registered NETS and integrate GST into our national accounting system. This requirement has been challenging and the Institute has benefited greatly from the amazing effort and hours of excellent work Helen Braithwaite has put into running the accounts for us.

Our renewed website is still fresh and relevant. It is functioning well and beginning to act as a hub for biosecurity activity. It has generated media inquiry and it has aided us in securing new members. The full potential is yet to be unlocked and it will be continually developed to become the virtual archive of our evergrowing history. vThe year hasn't been all roses with the website or the website host company. We had serious grief with the NETS2009 registrations that put undue stress on the organising committee and we only just avoided the same episode again this year. The NZBI has met with the company and we are endeavouring to work through the situation and so determine how the relationship can continue.

I'd like to commend to you the Executive, and thank them for their contributions to the Institute. I'd like to thank departing Executive members Helen Braithwaite, Dave Hodges, and Greg Hoskins for their contributions.

Helen is stepping down from Treasurer after many years in the role. She took over the role when we had a very simple accounting system and guided it to where we are today with internet accounts, GST, and tax having to be paid for our employees. Helen also integrated the membership role into the treasurers as it streamlined information and communication – an innovation that we intend to continue for the foreseeable future.

Greg Hoskins has been a stalwart of the Executive

for many years and I'd like to thank him for his positive influence on my role and his contributions to all areas of the NZBI. David Hodges leaves after nearly two years. Another change this year has been the gain of two new Vice-Presidents in Rebecca Kemp and Pedro Jensen.

The media blitz concept of "Biosecurity Month" has been rolled out this July, spearheaded by Pedro Jensen and conference organiser Carolyn Lewis with assistance from Claire Wooldridge-Way. We have had numerous media contacts and we have highlighted biosecurity topics a lot more than the traditional passive approach to media. Targeting media in this way is a new arena for the NZBI and I am sure Biosecurity Month will grow as we look to cement the concept.

Our traditional extension vehicle, *Protect*, has continued its high standard with Lynne Huggins as editor. Lynne is moving on to less journalistic endeavours shortly.

(Addendum to report as tabled at AGM) I would like to introduce to you Mr Chris Macann, as the new *Protect* editor. Chris comes to us with a wealth of experience having worked at ECan as communications advisor and now is senior reporter for Mainland Press. I am sure he will be in touch with many of you as we look for interesting articles, personal profiles and stories for *Protect*.

This year we have had good uptake of the professional development awards and I hope this continues. I would also like to remind branches when planning your next events don't forget to utilise the funding available for certain activities if you need extra funds.

Looking to the future I have every confidence that the NZBI will continue to be a facilitator for biosecurity knowledge and best practice in New Zealand. Our membership remains stable and our finances are very healthy which puts us in a good position to grow our activity. One activity that I would like to see us pick up is an archive project that pulls together the various histories of the Institute and preserves it for the next 60 years and beyond.

> Craig Davey President Craig.Davey@horizons.govt.nz

Kay Griffins wins the Stook Award

ay Griffiths, managing director of the Conservation Company (2005) Ltd, took out the NETS2010 Stook Award. The Stook is awarded for the best paper presented by an NZBI member.

For the benefit of newer members, Robb McGuinness is a former member with a penchant for carving special sticks which he calls Stooks, and I quote: "A stook is a cross between a sword, a stick, and a book – a record in wood, for the enlightened age of Aquarius".

This stook was carved from Pacific mahogany and was first presented in 1984.

Kay was presented with the Stook after careful deliberation among the members of the Stook Committee. Committee members attend all the presentations and decide on which member does the best job of presenting. This decision is based on the presenter's experience and also their content and how they handle themselves in front of peers and PowerPoint remotes!

Kay excelled on all accounts as her topic was innovative and her presentation style allowed members to hear and understand the message and importantly, take home some memorable visuals due to the excellent use of a small number of good photos. Kay presented on ivy control using a mix of intensive mob stocking by sheep followed by chemical control. The innovative approach taken by Kay and her partner Craig has seen the ivy burden dramatically reduced and over 10 years the infestation is gone with regrowth now occurring.

Kay and Craig are available for specialist weed management advice and programme management and can be contacted through their email address the conservation company@ ruralinzone.net.

> Craig Davey President Kay Griffiths is present Craig.Davey@horizons.govt.nz President Craig Davey.



President Kay Griffiths is presented with the Stook Award from NZBI

Bill Simmons – recipient of the Peter Nelson Award

Bill Simmons was awarded the Peter Nelson Award at NETS2010. Bill is currently the Sales and Marketing Executive at Animal Control Products in Wanganui. He has nearly 40 years service in the pest management industry commencing as a trainee ranger with the NZ Forest Service at Kaiangaroa in 1971 and transferring to the Department of Conservation when the Forest Service was dis-established in 1987. Eight years later in March 1995 he commenced duties with Animal Control Products, then commonly known as the Wanganui Poison factory.

Expertise in pest management

Over his career Bill has become an expert in pest animal management. He was involved in Bovine Tb control operations seconded to the Agricultural Pest Destruction Council (now the role of the Animal Health Board) from the NZ Forest Service in the earliest days of Bovine Tb control in 1975/76 at Highfields near Raetihi and at Wainuiomata, now part of Hutt City Council. During his tenure with both the Forest Service and Department of Conservation he held management portfolios for a wide range of pest animals throughout many districts and Forest Parks in New Zealand. He was a Senior Environmental Ranger for the Forest Service and an Operations Manager for DOC. His advice and expertise was sought after and freely given on a wide range of management issues.

When he joined Animal Control Products as their Technical Officer, Bill's talents were quickly recognised and he made good the opportunity to experience a new tangent to his developing expertise in pest management. Well what a choice. It was great for the pest management industry (DOC, Regional Councils, contractors, AHB) and of course for Animal Control Products (ACP) which then had factories in both Wanganui and Waimate.

Industry updates - standardising control

Shortly after Bill's appointment the newsletters from ACP became more interesting and informative. They brought news of local, national and international interest and were wide-ranging in content. There was a particular gem entitled Carrot Bait Toxicity. This was an extract from a paper written by Bill in 1978 during a winter poisoning operation in the Southern Ruahines and demonstrated not only his technical ability and



Bill Simmons receives the Peter Nelson Award from NZBI President Craig Davey.

pragmatism to finding solutions but also his ability to express himself in a clear and coherent manner.

These ACP industry updates have continued to present salient and wide ranging information to the pest management industry. The updates have in fact been a major catalyst in standardising control approaches and keeping the industry together. The content and format of the updates over many years is testament to the wide knowledge and level of interest Bill has for the industry.

It has been said that Bill has the same amount of passion and directness of the late Peter Nelson towards making pest management in NZ more proficient and indeed more professional. They often didn't get on with one another but they say that opposites attract and likes repel. In there own ways both are champions of the pest management scene and have positive influences that stretched beyond New Zealand.

In an advertisement promoting Animal Control Products Ltd several years ago there was a list capabilities suggested. These included manufacturing, technical, analytical, operational, logistical, regulatory, trials, export, import, source and supply, pricing, design, presentation, delivery and wholesale/retail. The ad was followed by the statement "who else has credentials like these?" Why Bill does of course.

Regulatory

Bill's expertise and passion came to the fore during the transfer of fumigants, non-controlled and controlled vertebrate toxic agents (VTAs) from the old Pesticide Regulations to those under the HSNO and ACVM Acts. This was a tedious and often trying process and it took Bill's tenacity and sound arguments that broke deadlocks and gave more balance of pragmatism over bureaucracy. ERMA and the NZFSA were never foe. They just needed guidance and another way of looking at resolving issues, tactfully and diplomatically.

Bill has been at the forefront of promoting new products and attending to their registration requirements. There are many such examples such as the re-registration of 1080 apple and DRC1339 bread rook baits which got left behind in the VTA Transfer.

There has also been the continuing work to retain the controlled and measured use of brodifacoum products

on the mainland until something equally efficient is available. Bill knows the legislation and how it is meant to be interpreted. He has been able to fast-track processes that were in peril of being bogged down.

Nurturing a fraternity

Bill also takes a great interest in the minor politics of pest management. He was a long-term executive member of the Vertebrate Pest Institute of NZ (VPINZ) and became National President until it was disestablished by resolution in August 2005. Bill was instrumental in completing a successful merger of the VPINZ membership with the NZ Biosecurity Institute. It was at the final meeting of the VPINZ that the annual awarding of the Peter Nelson Memorial Trophy was adopted and it is fitting for Bill to be the 2010 recipient.

> Ray Cleary Greater Wellington

Inaugural New Zealand Biosecurity Month 2010 – bring on 2011

Pedro Jensen NZBI VP, & Co-ordinator NZ Biosecurity Month 2010

nspired bv the increased media interest at NETS2009 in Queenstown, the NZBI unilaterally declared July 2010 to be the first-ever NZ Biosecurity Month.

One of the aims of the NZBI is to raise awareness of the Institute and New Zealand's biosecurity issues, so the Executive decided that it was time to increase our activity towards achieving this aim.

Our key messages for the promotion were:

- Biosecurity protects the health and future of New Zealand-ourenvironment, our economy, our people from invasive pests,
- All New Zealanders have a country safe from pests, and
- · Biosecurity protects the natural identity of our country.

Aligning the campaign to coincide with NETS2010 in Blenheim worked perfectly with media coverage especially gravitating towards Dr Charles Eason's presentation about possible alternatives to 1080. Dr Eason was interviewed by TV3, and interest came from as far away as Australia, where he also had a radio interview with Melbourne Live.

Articles were published in the New Zealand Herald, The Press, Wairarapa Times Age, Central South Island Farm Review and on the Scoop and Science Media Centre websites. Other coverage included NZBI President Craig Davey highlighting wider biosecurity issues in interviews with Radio New Zealand and the Rural News. Radio New Zealand interviewed Kate Helstrom (MAFBNZ) regarding biosecurity-focused industry and government sector working groups, and

Ben Minehan (MDC) closed Biosecurity Month with an interview on Rural Delivery (TV1) about the biosecurity issues in Marlborough.

Newspapers were particularly interested in the farmers who gave presentations at NETS2010. Biosecurity issues relating to the operations of their businesses and those farmers who hosted delegates on their properties as part of the south Marlborough field trip were great topics and articles about them were published in the Farmers Weekly and Blenheim Sun.

A big thank you to all those NZBI members who helped make NZ Biosecurity Month 2010 a successful campaign and achieve its aim of raising awareness for both the Institute and NZ's biosecurity issues.

NZBI will build on the lessons learnt in 2010 and plans are also in place to make NZ Biosecurity Month 2011 bigger and better, with a longer lead-in period and more coverage of the vital work that members do to protect New Zealand from invasive species.

role to play in keeping our A round-up of articles which appeared during New Zealand Biosecurity Week this year.



Biosecurity personnel profile: Chris Macann

Role:

Protect Editor Reporter, Southern View Mainland Press chrismacann@gmail.com

am a Christchurch writer with an interest in biosecurity and environmental matters. I'm presently senior writer for Mainland Press which publishes community newspapers throughout greater Christchurch.

I have a background in environmental communications, sponsorship, and exhibition and event management.

I have developed communications and awards programmes for schools, businesses and the rural sector to encourage excellence in resource management, and have managed the Canterbury Resource Management Awards programme for many years and am presently helping establish a Responsible Business Awards programme in the Selwyn District.

My writing includes articles on animal and plant pest matters for a number of Canterbury publications.

I have spent short periods living in Africa, Europe and the Middle East and am now enjoying discovering the Pacific.

I live on a small farm on Christchurch's southern outskirts with Landcare Research weed biocontrol programme leader Lynley Hayes, two dogs, four chickens, a few sheep and occasionally, horses.

Chris Macann



Chris Macann takes over the role of Protect Editor starting with this summers issue.

Biosecurity personnel profile: Helen Braithwaite

Role: Former NZBI Treasurer & Life Member

spent most of my working life in the UK, as a telecommunication engineer, planning the modernisation of telephone exchanges and the installation of fibre optic networks; not necessarily the ideal grounding for a weedo. However, I had a little training in the UK as a rhododendron basher.

After a failed round the world voyage on an old wooden trawler that I helped to convert to a two-masted sailing boat, I decided to return to New Zealand, where I had lived in my teens.

Unsure what to do next I finished my mathematics degree (started in 1971, finally finished in 1996) and looked around for suitable work. More looking for interview experience, than expecting a job, in 1995 I applied for a job with the Wellington Regional Council on the old man's beard programme. One of the reasons I got the job, was because the interviewers were looking for someone who would not bust into tears or swear back at stroppy landowners. So I scoured the northern suburbs of Wellington looking for old man's beard and trying to get away from dogs which were home alone and wanted to play (only got bitten once, no tears, no swearing landowners). The worst confrontation was the householder who accused me of being a Russian spy, (though it was never a career option offered to me and it is difficult to see how inspecting gardens in Khandallah could undermine democracy).

I really enjoyed working with weeds – it's a great way of benefitting the environment while destroying things. Public awareness and Weedbusters have become a very important aspect of the work to me. I strongly believe we need to take the public with us and share our passion for protecting NZ from pests. We do not have the resources to do everything that should be done so we need to enlist and inform anyone who is interested.

At WRC I became involved in NZBI, attended my first NETS in 1997 and organised NETS1998 in Wellington. Late in 1998 I moved to work for DOC, writing weeds SOPs and delivering training. In 1999 I moved to Christchurch to be with my partner, Rob, who I first met at NETS. I continued working for DOC in various weeds roles.

I have been active in Lower North Island and Canterbury branches of the NZBI and became the Canterbury Executive member in 2000. It was an



Helen Braithwaite.

exciting time to be involved in NZBI with Lynley Hayes on her mission to revitalise the organisation. A new logo, a mission statement and aims, the website, an updated constitution, our membership increasing across a wider range of organisations, study and travel awards, and the merger with VPIMNZ were some of the changes over that time.

In 2004 I took on the role of Treasurer and have had an eventful few years as the NZBI came of age financially with GST registration, online banking, and PAYE. It has been interesting to note that no matter how much we spent on measures to improve the NZBI (website, awards, etc.), our funds have continued to increase as we increase in membership and attendance at NETS.

I have enjoyed working with NZBI members as Treasurer and am sure that the finances will be in good hands as Louise Cook takes over the Treasurer role.

I was amazed to be given Life Membership of the NZBI at the 2010 AGM. I don't really like to be in the limelight (whenever I offer a talk at NETS I secretly hope that it will not be included in the programme) and I believe that there are others who are more worthy of the recognition than me!

I have really enjoyed making a contribution to the running of the NZBI at branch and national level, however, maybe I will now have more time to spend sailing our boat in the lovely Marlborough Sounds

Helen Braithwaite

Life as a Noxious Plants Officer

Tony Banks

t was the early 1980s and I needed to increase my income. I was already on the local Federated Farmers Noxious Plants Committee and I knew the local Noxious Plants Officer (NPO), although not that well, who had taken over from David Parnham who used to inspect our seed production for the then Department of Agriculture. I happened to spy an advertisement by the Waimairi District Council, on the western boundary of Christchurch city, for an NPO, so I applied, was interviewed and was appointed their first full time Officer.

I found out later that my appointment was due mainly to the experience I had had as an agricultural chemical contract applicator, although I did not have any approved qualifications at that stage; that came later. I also learned that the Ministry of Agriculture and Fisheries (MAF) subsidised local council appointed NPO's salary to the tune of 50%. It didn't matter that my first job was to inspect overhanging trees on the residential footpaths, and I well remember walking the full length of Memorial Avenue to the airport and back – both sides in one day.

Down to serious business. The NPO in Waimakariri, my home area, was David Rossiter and he became my training officer. I was destined to go through the full training programme via the Technical Training Institute with the help of David. I did have a Diploma in Agriculture from Lincoln College as it was in those days. That qualification speeded up my training towards my gaining my Certificate of Proficiency. The Waimairi Council was also part of a District Noxious Plants Authority (DNPA) in conjunction with the Paparua District Council. Paparua had had a full time officer for some time. I remember this officer had come out to our neighbours farm to inspect exported potatoes for MAF some years ago, although I didn't know him at that time. Steven Brown was also to play a big part in my training and we used to attend combined councils' DNPA meetings once a month.

How far does a nodder nod? What was old man's beard? I thought it was lichen. I was soon to find all this out, especially with the help of David. I even found a big thistle nearly two metres tall. Ah, I thought, I've found something special here, something to rival the Taurian thistle (*Onopordum taurium*) that Garry Kerr had recently found near Fairlie. So I took my sample to Arthur Healy, retired Botany Division DSIR, and did



Tony Banks

he prick my balloon. That is just a nodding thistle in one of its many forms, he tells me. Boy, was I learning very quickly. We just don't get nodders in our farming area.

So, I just kept on inspecting. I thought the logical area of infestation would be the local freezing works in Belfast. So I did a full property inspection, and didn't find anything on our DNPA list of noxious plants. So I went to the local Styx Basin Reserve which was leased for grazing. By this stage I was into looking for the unusual. Now, here was a peculiar plant. I had got to know what boxthorn, barberry and all the other plants of a noxious nature looked like, but this one looked rather nasty, and prickly, and not on our list. So, back to Arthur. He was really interested this time and identified the plant as restharrow (*Ononis spinosa*); a rare and an unusual find.

By this time I was right into botany. I had bought all the *Flora of New Zealand* volumes, plus most of the other books relevant to our work: *Poisonous Plants of NZ, Standard Common Names For Weeds in NZ, Identification of Weeds And Clovers*, and the standard book for all NPO's, *Common Weeds of New Zealand*. I was starting to learn the botanical names of plants, both introduced and native, but just couldn't match David, my training officer, nor John Thacker for his extensive knowledge of plants.

Aquatic plant control was a very crucial part of our work too. Initial work was on curled pond weed (*Potomogetan crispus*) control in the lakes in the Groynes picnic area. However, we soon found other aquatic plants of great concern: an egeria site in the Waimakariri county as

well as lagarosiphon (*Lagarosiphon major*) which every county seemed to have. Other plants that became of concern were entire marshwort (*Nymphoides geminata*), cape pondweed (*Aponogeton angustifolius*), nardoo (*Marsilea drummondii*) and other aquatic plants of a sub-tropical nature. These plants took some controlling and we were indebted to Paul Champion of the Aquatic division of the MAFQual Hamilton, for his expert advice on identification and control. Paul is now working with NIWA, still in Hamilton.

A regular visitor to my office was the Noxious Plants Council Field Officer Graham Strickett. He was obviously looking to see that the MAF got value for money, and I felt confident that I was giving them that. I thought one way to keep him on my side was to get him involved in a pet project. Old man's beard (Clematis vitalba) wasn't on our DNPA list. Why not? It was running rampant in a lot of areas, residential and rural, and was easily controllable. So I decided to put some details together. Distribution, identification, methods of control, growth habits were all on my list. I eventually got all the data together and submitted it to the Noxious Plants Council through our DNPA, and low and behold, it was gazetted as a noxious plant. I think it was a first for New Zealand, or certainly a very close second. I felt that that was my legacy to Waimairi.

In 1989 there was a major local government reform and that was the demise of a lot of local councils by way of amalgamation. Waimairi was one of them. DNPAs were abolished and noxious plants control became the responsibility of the regional councils. The whole system was reorganised and my training officer, whose area was the Waimakariri region, became one of two co-ordinating officers for Canterbury.

I moved out to the Waimakariri area. Promotion with a bang. Fortunately I had got to know some of the area as David had been very thorough in his training regime and had taken me out on various field trips in the area. Was he aware of the future? I had had a lot of explaining to do to my Waimairi boss, Graham Manton, Waimairi's Chief Health Inspector when I applied for a trip with David to look for nassela tussock as he thought we would never find nassella tussock in Waimairi. But we did. Not me but Ron Palatchie, one of the staff members who was familiar with it, found a plant in the Ouruhia Domain. Later we found that wasn't the only site.

The Waimakariri District Council found me an office in their Southbrook works yard and I started real property inspections. David had decreed that nodding thistle control was a priority in that area as it was of limited distribution. Although a very few farms had major infestations, biological control was not considered an



Rare find: restharrow (Ononis spinosa).

option. During my training sessions he had taken me out and shown me how to run a control programme. Two on motorbikes, one opening gates and the other shutting them, up and down each paddock, 50 to 100 metres apart, loaded with Tordon prills in an applicator and a bag in a bin on the back of the bike. If a plant was found in the rosette stage it was on with the prills, kick the plant, the dew next day being enough to activate the prills. If the plant was in flower it was "strip" the heads off and into the bag and then the same prill treatment. If the infestation was too thick to control by this method it was marked on a farm plan for discussion with the farmer.

If a distant plant was observed and not readily identifiable, out came the binoculars for positive identification. Same treatment again. In a year's time when I was on my own, I had two radio telephones in the truck cab, one regional and one district. Only once did I get a call on both units at once. It became a standing joke. District staff, especially Phil Reid of the water race unit, would call up and say, "there's a nodder between the magpie and the pine tree on Poyntz Rd". That earned him a chocolate fish and I made sure he got it, such was the enthusiasm for nodder control. It was seasonal of course - late spring, early summer. One property I surveyed for the occupier was 1600ha and it took me a week to complete. The biggest day was 100 kilometres on the bike, paddock by paddock, row by row. I just loved it and felt that I was really doing something for the farming community.

Winter work was mainly boxthorn and barberry control which was usually by stump treatment -



Back row: Jeremy Sheat (DSIR) Lindsay Scott (NPO) Richard Hill (DSIR) Laurence Smith (NPO) Stephen Brown (NPO) John Clapham (NPO) Terry Broughton (NPO) Middle row: Lynley Hayes (DSIR) Ian Williams (Retired NPO) Rob McCaw (NPO) Ian Frizzell (NPO) David Wiltshire (NPO)

Front row: Judy Grindell (DSIR) Russell Green (NPO) David Rossiter (NPO) Garry Kerr (NPO) John Thacker (NPO) Tony Banks (NPO) In front: Errol Barnes (NPO)

pouring glyphosate on a freshly cut stump. We also did a lot of old man's beard (OMB) control both in the residential and rural areas. Property inspection involved educating the occupier on how to control noxious plants, as after all it was their problem. Our job was basically to inspect, and to make sure control was implemented. However, one has to get the occupiers "on side" and this was best done by educating them, showing them how to do it and to prove that control could be achieved. This became more and more the norm as the regional councils implemented their policies. We did a lot of OMB control in the riverbeds, in conjunction with the regional council staff where river control was their responsibility. David's technique was to isolate the infestations by cutting tracks around the infestation, and spraying with knapsack or gun and hose, or even helicopter if necessary, depending on the size and access to the infestation. A lot of work involved powersaw and knapsack skills, often on our

own - not these days with OHS regulations!

The regional council decreed that I should move in with the vertebrate control officers so I moved my office to Fernside. That involved some expense as I had to have a computer put in to record my activities and infestations. So the pest control officers were introduced to computers.

My final move of office was up to Amberley and the nassella tussock unit. By this stage my area of responsibility had increased. Although it was from the east coast to Lees Valley, we often used to assist other officers if they had a big trip to do "out the back". If Russell Green from Darfield wanted to go out into the Waimakariri River catchment or the Rakaia area, sometimes even overnight, he would call me and we would arrange a trip to inspect gorse, broom or the spread of coltsfoot and OMB, and so on. John Clapham also had areas in the northern part of the Canterbury region to inspect or to distribute biological

control insects and that often involved going into some pretty remote areas, not the sort of places to be going into on one's own. We had some great trips into the high country, places like Mt White, Lake Coleridge, Clarence River areas, Lewis Pass, Hope River and even the Hurunui River catchment. We also made use of the helicopter for inspection work and I did some trips with Tony Michelle of Amuri Helicopters and with the late Alan Bond of Mt Hutt Helicopters.

The Canterbury Regional Council, as it was before it became Environment Canterbury, had another restructuring in about 1996 and some officers were discharged. It was a tragedy really, as a lot of experience was lost – knowledge of country, knowledge of biological control, experience in training new officers – all gone. This action greatly upset me as I knew that the hands-on approach which I enjoyed immensely was likely to go, and I really did lose a lot of good friends that I found it easy to work with. I knew then that another two years would be my lot. I was prepared to see the changes through and to help the remaining staff with the changeover, if that was what they wanted.

I took great pride in becoming a member of the Institute of Noxious Plants Officers in Timaru in 1989. I had given a paper to the conference there and felt that the Institute had played a big part in my training and in my enjoyment of my work. We used to have monthly meetings in different areas and an annual conference alternatively in the North and South islands, of which I attended about 10. I became Secretary with the Institute having about 140 members at the time. Eric Eden retired so I became responsible for the conference events and the production of *Protect* magazine. After some years I retired as Secretary but held the office of Treasurer for a couple of years. I did become familiar with the transition to the Biosecurity Institute which now has a membership from the Department of Conservation, regional council management and includes staff involved in the control of vertebrates. I was thrilled to see in a recent *Protect* that Lynley Hayes' work in restructuring the Institute has been justly recognised.

Biological control for me was a tool to use in conjunction

with other methods, especially with brushweed control. It was not really a method to control scattered thistles as they existed in our region. Years ago I had been a member of the Commercial Herb Producers Assn and at one stage Judy Grindell was their secretary. Judy later became a member of the Landcare Research Biological Control unit under Dr Richard Hill. I do remember finding Rhinocyllus weevil in nodding thistle heads in the Okuku region and John Clapham, who was responsible for that area before I covered it, tells me that he had never released that insect was in the area. We could only conclude that the insect had flown over the ridge from Lees Valley into the Okuku area.

I am very grateful for the opportunity to have been involved in noxious plants control and thankful for all the training I received through the councils and the Institute. The work introduced me to computer technology, report writing and physiological management. After all, the job involved a tremendous amount of people management. It was a skill that played a big part in achieving results. If one had to issue a legal notice and ended up in a court of law one could consider that one had failed in one's job. An officer also became privy to confidential information, especially involving land occupiers, due to the nature of the work. This information had to be treated with respect and often "stayed in the field". I have always had a love of the high country of the South Island, ever since I was a teenager. Working in such a job as an NPO gave me the opportunity to see some country that I could normally only dream of. I met some wonderful people and I am indebted to all those who assisted me and made the work so enjoyable.

When I left the regional council in 1998 I considered becoming a journalist in some form, due to the experience I had achieved at council level. I even did a summer journalism course at the University of Canterbury. However, I am an achiever of physical effort and chose to set up a light engineering workshop. Known as Arkwright's Welding Workshop it involves repairs, gate manufacturing and some design and manufacture of machinery. I am open when I am there, so we are "open all hours".

NETS2010

NETS2010 Blenheim: A personal view

ore than 220 biosecurity boffins from around New Zealand (and one Aussie) converged on the Marlborough Convention Centre in Blenheim at the end of July for NETS2010. As always, the gathering provided a chance for colleagues to catch up with each other, hear what has been going on in the biosecurity field in other parts of the country, and think about what the future of pest management in New Zealand might look like in future.

Some of the more unusual talks included Heidy Kikillus, a recent NZBI Study Award recipient, on biosecurity risks from the reptile pet market, and Art Polkanov from DOC on invasive bird species.

One speaker who gave an outstanding talk, and was subsequently awarded the coveted Rob McGuinness Stook Award for best presentation by an NZBI member, was Kay Griffiths of the Conservation Company, outlining their innovative work tackling ivy in bush areas.

Field trips provided some fresh air and some not so good weather, but delegates certainly got a feel for some of the biosecurity issues in the Top of the South. The background speakers for each field trip, including some landowners dealing with biosecurity challenges on their properties while maintaining productivity, were very well received, and some took part also in the field trips showing the practical side of their pest and weed control work.

Social events were well attended, although it was proved that the Mix 'n' Mingle doesn't necessarily fit well with the poster session, with presenters competing with increasingly noisy minglers! A lesson learned for future years, hopefully.

The conference dinner included presentation of awards, and for once, both the recipients of the Peter Ingram Award and the Peter Nelson Award were not able to attend this NETS and so their awards were accepted on their behalf. In the case of the Peter Ingram Award winner, the recipient remained unaware of their success until a month later when it was awarded on their home turf.

The dinner was also a chance to mark the 60th anniversary of annual conferences of the NZBI and its predecessor organisations – a diamond anniversary moment indeed.

Workshops ranged from onsite displays of spray equipment, to demonstrations of heli-technology out at a local aerodrome, to considering training needs in biosecurity

One workshop explored the possibility of "Biosecurity TV" with Kirsty Johnson of Showdown Productions. Kirsty spent all three days at NETS and collected plenty of stories that we hope will eventuate into some good documentary coverage of biosecurity in New Zealand. Ben Minehan flew to Auckland soon after NETS2010 to appear on Kirsty's show, *Rural Delivery*, to discuss biosecurity issues – a great start.

Blenheim provided the NZBI and delegates with an outstanding venue and event. The baton has now been passed to the organising committee for NETS2011 in Auckland for our next major gathering.

Anon

NETS2010

Straight shooting 'Weedie' shows 'em how to do it

he clay bird shoot went well with six contestants willing to have a crack. An overcast day offered good sighting of the birds against the dull sky, the course in Marlborough was well set up with both down the line and skeet shoots lay open to an afternoon of challenges ahead for both shooter and the range officers. All shooters had shot before, all be it with very different shotguns.

The plate was won by Ben Elliot, a pest plant officer from Waikato, who is, I think, only the second plant pest officer to lift the plate. Well done Ben, great to show the pest animal guys that weedies are as handy with a gun as they are with herbcides.

To all the blokes involved in the afternoon thanks for a great event and giving it a good crack.





NETS2010 Field trip report

Weed issues in south Marlborough



Left: Tony Turnbull tells NZBI members about the effort involved in the annual grubbing of nassella tussock on his 800ha farm, Jedburgh. Right: Rex Dodson holding Chilean needle grass, which he believes is a far greater problem than nassella tussock.

ETS 2010 delegates who went on the south Marlborough field trip were treated to three farm visits as well as a visit to Yealands Estate, a 1000ha vineyard near Seddon.

Two busloads of delegates left the Marlborough Convention Centre at 11am and headed south. Our guide, Ben Minehan, pointed out the sights along the way and before long we arrived at our first destination, the 800ha Jedburgh farm owned by Tony and Catherine Turnbull.

Tony and Ben provided some insight into the massive annual job of grubbing nassella tussock in this steep hill country, as well as the aerial spraying programme which covers 15-25ha of Jedburgh a year using Glyphosate® at 7 litres per hectare. Hopes are high that the herbicide Taskforce will soon be registered for use in New Zealand and this herbicide should improve control of nassella tussock. Rabbits on the property have been controlled using Pindone with approximately a 90% reduction in rabbit numbers.

Then it was back to the buses and onwards to the Cable Station Road property of Rex Dodson where we were shown the Chilean needle grass control trial plot which has been boom sprayed using Taskforce with excellent results. Rex sees Chilean needle grass as a far greater problem than nassella tussock, and says Taskforce is urgently needed as an addition to their armoury.

Next stop was Bonaveree Farm owned by Doug Avery. Through a slide show in his woolshed, Doug displayed his passion for farming the eastern Marlborough hills. Crop diversification from traditional pasture grasses to more productive clovers, lucerne, and tree species such as saltbush and eucalyptus has resulted in annual production going from \$330,000 to \$800,000 in recent years while many other sheep and beef farmers have struggled. The ability of plants like lucerne to tap into groundwater deep below the surface is a saviour in the dry Marlborough summers.

Our final visit of the day was Yealands Estate, a relatively recent vineyard development with a goal of producing wines sustainably. Owner Peter Yealands bought six farms at Seaview (east of Seddon) and contoured the land to create the 1000ha vineyard. Seventy-five per cent of the vineyard is planted in The vineyard now has sauvignon blanc grapes. 4000km of vines and mowing the grass between rows costs about \$40,000 each time. As a more sustainable alternative a special breed of "baby doll" sheep have been imported and are being bred up as sustainable lawnmowers. These sheep have shorter legs than normal and it is hoped that they won't damage the vines. Other sustainable initiatives include recycling all greywater for irrigation, and a plan to erect sufficient wind turbines to provide power for the entire winery.

So our south Marlborough field trip was a resounding success. Many thanks to Ben Minehan for organising and leading it and to the landowners for their generosity in taking the time to show us their particular land management challenges.

Tom Belton TSO Biosecurity DOC, West Coast

NETS2010 Field trip report

Willows at Para Swamp showing willows sprayed with glyphosate at left end of photo, unsprayed willows at right.

Past and present – introductions and eradications in the Sounds

A fter stumbling around in a state of confusion I found a switch and flicked it off. It must have been about 50°C, pitch black, and it sounded as if a heater was still running somewhere. Damn motel rooms. But no, the noise was heavy rain. It was pouring down outside. It was 4am and we had the 2010 NETS Marlborough Sounds field trip on today. I wondered if Jerry Springer was still on day-time TV. Perhaps window shopping in Blenheim would be a better option... back to sleep.

The rain had eased by the time we were ready to leave but the damage had been done. Soggy paddocks and swollen rivers were everywhere as we travelled towards Picton in our warm, dry bus. We passed Para Swamp, the largest freshwater wetland in Marlborough, and as Vaughan Lyn had suggested earlier, the willow infestation is serious. Fish & Game is undertaking a project to increase waterfowl habitat and game bird hunting opportunity and the first job is to control willow over much of the 120ha area. Glyphosate is being applied from the air and on the ground and the results were obvious. When willow control is complete, earthmoving machinery will be used to create open water and islands and a mixture of native and exotic species will be planted.

At Picton a Cougar line catamaran lay in wait. As we left the harbour the rain had eased, the sea was calm and the dolphins came out to play. Glad I ditched the day-time TV...

Further along Queen Charlotte Sound the sight of dying pines was a wonderful visual demonstration of selective chemical application at work. This success has been the result of more than 20 years of research by Nick Ledgard and others into wilding pine control techniques that encourage native plant succession. Simply felling trees would open up the canopy and encourage further pine germination and growth. The stem poisoning technique avoids this. We passed Blumine Island soon afterwards. Mike Avis talked about the restoration project focused on returning the island to its original state, without introduced predators, and developing a sanctuary for at-risk native animal and plant species. Rats were eradicated in 2005 and three pairs of the rarest kiwi (rowi), from South Westland where about 350 birds are left, were released during June 2010. About a third of the remaining Rowi aren't breeding in South Okaritio Forest and it is hoped that better conditions on Blumine Island will contribute to their breeding success.

Next stop, Ship Cove, but not before passing a large



Wilding pines in Queen Charlotte Sound treated with metsulfuron.

NETS2010 Field trip report

flock of fluttering shearwater. Other marine birdlife in the area includes sooty shearwaters, shags (including the rare king shag), gannets and pengiuns. It started to rain again as we visited Captain Cook's favourtie base. During Cook's three voyages to NZ he visited the cove on five separate occasions as it provided safe anchorage, food, fresh water, and timber for repairs to his ship. Cook described it as a "very snug cove". In those days it seems the challenge was to introduce as many animals as possible. On board they carried chickens, pigs, goats, sheep, and rats. Cook put a ewe and a ram ashore at Ship Cove and was disappointed with his failure to introduce sheep: "Last Night the Ewe and Ram I had with so much care and trouble brought to this place, died, we did suppose that they were poisoned by eating of some poisonous plant, thus all my fine hopes of stocking this Country with a breed of Sheep were blasted in a moment" (Journals of Captain Cook, 23 May 1773).

<image>

Heidi Pene doing her bit for Motuara Island restoration

Next, ironically, we headed to Motuara Island Scenic and Historic Reserve where 237 years later every attempt is being made to remove exotic species. Once farmed, the island is now well covered in regenerating native bush and is predator free, and – thanks to Heidi Pene – has one less wilding pine seedling. The island is being used to enhance populations of the South Island saddleback, Maud Island frog, Marlborough green gecko and also as a nursery for the rare rowi kiwi chicks. Other native bird species on the island include wood pigeons, fantails, blue penguins (in season), bellbirds, NZ falcons, variable oystercatchers, reef herons, pied shags, spotted shags, little shags, and the always inquisitive South Island robins, which are all banded and individuals well known to DOC staff. We have some really weird animals in NZ – take the primitive Maud Island frog mentioned above that was translocated to Motuara Island in 1997. For a start it doesn't croak, it doesn't have a tadpole stage, and it's doesn't even have webbed feet! Some frog.

We left Motuara Island in the mist and started back towards Picton. At Picton I watched a fisherman checking his nets and wondered if he had time to reflect on his work, as we had just done. We are lucky – all the efforts we put in are geared toward long-term benefits for New Zealand's biodiverstiy and conservation. It's an inspiration and a privelage to witness these benefits from time to time and I thank all who helped to organize and make this trip possible.

> Paul G Peterson Landcare Research

Biosecurity sector

Biosecurity database help available

f you can't measure biodiversity, you can't manage it. But how do you deal with the vast amounts of data generated by monitoring and surveillance programmes? A good place to start is Dataversity, a new initiative to help you improve your practices and systems for managing biodiversity and biosecurity data.

Dataversity's membership includes more than 100 professionals who deal with biodata – from local government, DOC, CRIs, and other government, non-government and private-sector organisations. Its online community makes it easy to find out how others have tackled a problem, before trying to solve it on your own. You could even find that someone has built a system to handle data like yours, and they are happy to share it with you.

Dataversity provides:

- A forum for sharing knowledge, tools and advice.
- Peer review and collaboration to develop new resources.
- Forums, both online and at regular regional and national meetings, for discussing topics such as data and metadata standards, data sources, databases and information-sharing frameworks.
- Access to the Dataversity website's running record of conversations and meeting outputs – a valuable archive of topics and ideas.
- The ability for you to post documents and descriptions of data management systems in the Dataversity



Julian Carver leads a work session about the NZ Weeds Distribution Database project during the 2010 National Dataversity Workshop, held in March this year in Wellington.

Biodata System Guide.

Dataversity is becoming New Zealand's "onestop shop" for biodata management systems and expertise. Systems, standards and practices gained from Dataversity can cost-effectively benefit your organisation's data management practices. They can also contribute to data-sharing that will have biodiversity benefits nationally, and globally.

To join Dataversity, or browse online resources, visit <u>http://dataversity.org.nz</u>.

Biocontrol

Biocontrol research to mitigate the impacts of possums

Janine Duckworth Possum Biocontrol Development duckworthj@landcareresearch.co.nz Dan Tompkins Possum Tb Vaccines tompkinsd@landcareresearch.co.nz Phil Cowan Pest Control Technologies cowanp@landcareresearch.co.nz

ne thousand years ago New Zealand was free of terrestrial mammals except for three species of bats. In the last 200 years more than 50 different mammals have been introduced and several are now widespread pests that dominate natural ecosystems at the expense of our native plants and animals and cause significant losses to agriculture.

Biological control has often been seen as a solution to management of widespread pests, but some previous attempts to use biological control to reduce vertebrate pests and their impacts in New Zealand, such as the introduction of stoats and ferrets to control rabbits, have had disastrous consequences for native animals while others, like the introduction of rabbit haemorrhagic disease, have been successful in some ecosystems but not others. In terms of expenditure on control, New Zealand's number one mammalian pest is the brushtail possum. Possums cause significant damage to forest canopy species through browsing and they compete for food and prey on native birds and invertebrates. They are also the main wildlife reservoir for the transmission bovine tuberculosis (Tb) to livestock, and damage plantation forests and agricultural and horticultural crops. Currently pest control managers carefully balance the costs, benefits and risks of conventional lethal control to achieve the best possible outcome for native biodiversity and agricultural production. The size and urgency of the possum problem and the currently available technologies means the broad spectrum poison, 1080, remains the most cost-effective tool for controlling

Biological control or biocontrol: a

method of controlling an exotic species or a disease-causing organism or pathogen using a naturally occurring or bioengineered organism or a biochemical product to cause death, inhibit growth, or inhibit reproduction of the unwanted organism. possums in many situations. There is, however, considerable public support for developing biological control methods to complement conventional control.

Biological control or biocontrol is traditionally taken to mean the use of a natural enemy of a pest species (often a parasite, disease or predator) to control that pest. This is often referred to as classical biocontrol. In the 1990s large-scale surveys in New Zealand and Australia were not able to identify an efficacious and safe pathogenic virus, bacteria or parasite suitable for use as a classical biological control agent against possums.

Rapid advances in molecular biology and biotechnologies have seen the concept of biocontrol widened to include the use of genetically-modified organisms and biologically-derived products to interfere with biological processes of the pest and cause death, prevent disease, or inhibit reproduction. Such biotechnological approaches to biocontrol have the potential to be customised for specific management requirements, including non-lethal methods of control.

For possums, options for non-lethal biocontrol being researched include the use of human tuberculosis vaccine (bacile-Calmette-Guerin or BCG) to reduce Tb infection of free-living possums and subsequent infection of livestock as well as the use of bait delivered fertility control vaccines to slow the rate at which possum populations recover after conventional control and improve both Tb and conservation outcomes. These technologies could reduce the amount of toxin used in New Zealand and the frequency of its application, as well as reduce both the risk to non-target species and the risk of environmental contamination.

BCG vaccines for Tb control

BCG vaccine, usually given by injection, has been used for many years to protect humans from Tb. However,

Acknowledgements: These projects were funded by the Foundation for Science, Research and Technology, the Animal Health Board, Landcare Research, and the National Research Centre for Possum Biocontrol.

Biocontrol

an effective BCG vaccine for the management of Tb in possums requires a practical method of delivery, with oral delivery the preferred option. The vaccine contains BCG, a live attenuated bacterium that must be protected from acid breakdown in the stomach to remain effective. An edible lipid matrix has been developed that keeps the BCG vaccine viable following oral delivery, and scientists from Landcare Research, Immune Solutions, and AgResearch have been field testing the lipid matrix formulation. The oral BCG vaccine was shown to provide significant protection against natural Tb infection in wild possums. Over a two-year period 17% of untreated control animals were confirmed infected with Tb compared with only 2% of vaccinated animals. Research is now under way to fully characterise the duration of protection against Tb conferred by oral BCG vaccination of possums and to develop the application strategies and best-practice advice to managers so that the benefits achieved from vaccine use are maximised.



Figure 1: Experimental oral vaccination of possumusing BCG in a lipid matrix.Photo: Matt Lambeth

Reproductive control technologies

Landcare Research and collaborators are developing fertility control vaccines that reduce the reproductive success of possums by targetting proteins derived from the possum egg coat or zona pellucida (ZPmade up of 3 proteins, ZP1, 2 and 3). ZP immunisation interferes with the development of possum eggs in the ovary and disrupts the process of fertilisation. Importantly, possum ZP proteins are distinctly different to those found in non-target species such as birds and non-marsupial mammals. Female possums injected with possum ZP vaccines had 60-80% fewer embryos than untreated possums, while vaccinating mice and chickens (model non-target species) with



Figure 2: Bacterial ghost vaccines are made from the empty cell envelops of bacteria formed when the bacteria lyses and the cell contents are expelled. Photo: Werner Lubitz

the same possum ZP proteins did not affect their fertility. This suggests that species selective fertility control vaccines may be a real possibility. ****

As for Tb vaccines, effective methods are needed to deliver vaccines to free-living possums. Collaborators at the University of Vienna (Professor Werner Lubitz and his team) have modified a harmless strain of bacterium to produce the possum ZP2 protein within its cell wall. During production the bacteria are killed and the cell contents expelled, leaving the empty nonliving shell of the bacteria, called a "bacterial ghost", containing the ZP2 contraceptive protein (Figure 3).



Figure 3: Enteric coated formulations of ZP2 bacterial ghosts for oral delivery. Photo: S Martin

If possums are treated with the ZP2-ghosts, their immune system recognises the ghost as foreign and is tricked into developing antibodies against both the bacteria and the ZP2 protein, stimulating a contraceptive response. ZP2-ghosts applied to the mucosal surface of the possum's eyes and nose, to mimic delivery via an aerosol spray, reduced both the fertilisation rate of artificially inseminated possums and the number of offspring born in captive breeding trials. ZP2-ghosts given orally, with a gastric acid inhibitor to protect the vaccine from acid breakdown in the

Biocontrol



Figure 4: Enteric-coated formulations of ZP2 bacterial ghost vaccines granules are stable in acidic conditions (pH 2) found in the stomach but disperse in the near neutral conditions (pH 6.5) that occur in the small intestine. Photo: S Martin

stomach, also elicited an immune response in female possums and reduced conception rates. The same ZP2 ghost vaccines have now been formulated into enteric coated granules by the School of Pharmacy, University of Otago, for oral delivery. The coating of these granules is stable at the acidic pH of the stomach but breaks down in the more neutral pH of the small intestine, releasing the vaccine for uptake by immune cells. To further improve the intensity and longevity of the contraceptive response, new high expression ghost constructs containing 5-50 higher levels of ZP2 protein are also being evaluated.

Results to date demonstrate that bacterial ghost vaccines delivered as an aerosol spray or a bait are able to stimulate an immune response in most possums and interfere with the ability of some female possums to breed successfully for a few months. Research is under way to improve formulations and maximise vaccine potency and the period of infertility. If increased efficacy and longevity can be achieved, the ZP ghost vaccines would have the potential to partly substitute for conventional lethal control particularly in sensitive ecological and cultural areas. Reduced risk to non-target species and minimal hazard to users means that, unlike some conventional toxins, the ZP2 fertility control vaccine baits could be suitable for application by private individuals. The speciesselective characteristics of possum ZP proteins means that they would offer distinct advantages if a transmissible biocontrol method for delivering fertility control vaccines to possums were to be developed in the future.

Successful trial carried out using Feratox on Bennett's wallaby

Lyn Nicholls

Field trials targeting Bennett's wallabies were conducted in the South Island in March and April 2010.

Using Feratox®, designed for Tasmanian conditions, and the preferred bait station and post delivery systems established in Tasmanian trials, 80-90% of a population of Bennett's wallabies was successfully targeted and culled from a block of 150ha in South Canterbury.

Feratox® was deployed in Striker bait stations attached to posts in an area of approximately 150ha of hilly land. Use of Strikers coupled with a post delivery system, optimised Feratox® pellets, and identical Feratox® placebo during pre-feeding followed the recommendations from Tasmanian trials and pest control professionals in New Zealand.

Posts were placed along a 1.2km U-shaped line at the head of a gully approximately 100m apart and also on "pad runs". Pre-feeding over 2 weeks with bait and placebo Feratox® was considered important to increase cost-effectiveness, safety and reduce bait and pellet spillage. Pre-feeding involved 416 Striker baits at 14 feed sites with Strikers stapled to posts 480 to 600mm above the ground. Two Feratox® placebos were placed in each Striker. With a total of 54 stakes with 8 Strikers per stake and 2 placebos per Striker more than 800 placebos were dispensed.

Following pre-feeding over 2 weeks toxic pellets were dispensed in six Strikers per stake. One hundred and ten Bennett's wallaby carcasses were recovered and 80-90% kills established by faecal pellet count. No non-target species were detected in carcass searches. Since these could not be located following very careful searches it was concluded that some wallabies may swallow pellets or crack more than one.

A short line of Striker baits was established in an adjacent area. Identical procedures were followed,



The ridge where the Feratox trial was carried out.



Bennett's wallaby carcases following the trial. The post delivery system can also be seen.

except that no pre-feeding was undertaken. The value of pre-feeding was clearly demonstrated as nearly 40% of the toxic pellets were located on the ground below these bait stations.

These results support the use of Feratox® for control of Bennett's following an adequate period of prefeeding. Reports will now be completed for inclusion in registration dossiers. The trial was independently assessed by pest control professionals and officials from the regional council in Christchurch (ECan) who were impressed by the outcome.

Subsequent enclosure trials with grates below bait stations, completed during the week of April 11 to 16, have confirmed that pellets will fall through grates and grating system could augment the new delivery system and prefeeding to further reduce the risk to non-target wildlife.

Feratox continues to be a popular and cost-effective control tool for controlling possum populations and more recently to control Dama wallaby. Feratox is not yet available for Bennett's wallaby control but this registration should be completed by the end of 2010.

For information contact: **Connovation Ltd** PO Box 58613, Botany, Manukau 2163. ph: +64 9 273 4333 www.connovation.co.nz

BIOSECURITY NEW ZEALAND

On the lookout for the bat-wing passion flower

n invasive plant with the ability to smother, shade and strangle its host plants has emerged as a threat to New Zealand's environment with the potential to impact on our economic, biodiversity and social cultural values.

Bat-wing passion flower (*Passiflora apetala*) has recently been found in the Northland, Auckland and Waikato regions, and MAFBNZ, in partnership with regional councils and the Department of Conservation, wants to know where this weed is found and determine how far it has spread.

In November 2009 it was declared an unwanted organism under the Biosecurity Act 1993, which bans it from sale, propagation and distribution

The plant has been found in regenerating native forests and scrub, home gardens and among hedges and fence lines. Seedlings are usually found under places where birds perch.

Native to Costa Rica and Panama and shade tolerant, *Passiflora apetala's* two large lobed leaves resemble bats wings and some have pale green stripes along the midribs. Its small yellow/light green coloured flowers (7-12 mm diameter) produce small black berries roughly the size of a small grape (7-15 mm diameter). Berries are inedible and non-toxic to humans, but are attractive to birds.

This invasive vine can produce a lot of fruit and many hundreds of seedlings have been found under some plants.

If you sight bat-wing passion flowers in Northland call the regional council on 0800 002 004; in Auckland phone the regional council on 09 426 7643 and in all other regions contact MAF Biosecurity New Zealand on 0800 80 99 66.

Helen Corrigan Senior Adviser MAF Biosecurity New Zealand



Calling all Nelson readers: have you seen this caterpillar

new caterpillar has set up shop in Nelson and MAFBNZ would like to hear from you if you have seen it.

In May, a member of the public in Nelson found eight live *Pieris brassicae* (great white cabbage butterfly) caterpillars on a nasturtium plant on their property.

The Plant Health and Environment Laboratory later confirmed the initial identification of the butterfly, which is listed as an unwanted organism in New Zealand.

Since May, there have been three further confirmed,

and several unconfirmed, sightings of the species outside the original find area. MAFBNZ will not be able to determine the full extent of infestation until spring when butterflies and caterpillars start appearing.

With the onset of winter, it is likely all caterpillars will have pupated into chrysalises and it's likely that a breeding population of *Pieris brassicae* exists in Nelson.

The butterfly is regarded as a serious pest of brassica crops including cabbage, broccoli, cauliflower, forage



kale, brussels sprout, swedes and turnips, in Europe, Britain and India.

The butterfly are strong fliers and if the species is, or becomes established in the Nelson area it is possible it could spread relatively quickly. It is not yet known whether the butterfly would do more damage than the small white butterfly, or if it could be controlled by the same management practices.

The widespread small white butterfly, which is common in New Zealand, is closely related The larva of the great white cabbage to the great white cabbage butterfly and is butterfly (Pieris brassicae) above, and also a pest of brassicas.

Before MAFBNZ can fully assess possible response options, more information about the distribution of the butterfly around the Nelson/Marlborough area is needed.



pupa, right Photos: James Lindsey



If you see this pest, please call MAF Biosecurity New Zealand on 0800 80 99 66.