

## SPEAKER PROFILES and PRESENTATION BRIEFS

### **Dr Jane Barton**

**Contractor to Manaaki Whenua, Landcare Research**

Jane.Barton@ihug.co.nz

*From 1997 to 2002 Jane was employed by Landcare Research in Auckland working on the use of fungal pathogens for the biocontrol of weeds. One of the first projects Jane worked on for Landcare Research was the introduction of the white smut fungus for biocontrol of the weed mist flower. Jane moved to a farm in the King Country in 2002, but continues working part-time for Landcare Research on biocontrol of weeds as a private contractor.*

#### **Effects of Biocontrol of Mist flower (*Ageratina riparia*) on plant diversity in the Waitakere Ranges, Auckland**

Students from the University of Auckland were employed over five consecutive summers to monitor permanent plots set up in the Waitakere ranges in Auckland. As the biocontrol agents released against the weed reduced its vigour and cover, plots with and without mistflower were compared, and changes in vegetation were recorded.

### **Amber Bill**

**Department of Conservation, Te Papa Atawhai**

abill@doc.govt.nz

*With a curious background of plant ecology and psychology, Amber has found her niche in weeds public awareness. Amber is DOC's national weeds public awareness coordinator, a two-year contract that started November 2002. Amber is probably better known now as national coordinator for Weedbusters, New Zealand's interagency programme that was launched last October to raise awareness about weeds.*

#### **Weedbusters – what a year, what a future!**

Public awareness, education and participation are essential to all aspects of weed management: from eradication, to stopping aquatic weeds spreading, to looking out for new weed problems, to securing funding for weed control. Weedbusters recognises this and is providing tools for us to empower communities, to promote the weed problem, and to educate future generations.

Less than a year after its launch in New Zealand, Weedbusters is making great progress thanks to the efforts of the Department of Conservation, regional councils, unitary authorities and other stakeholders. Progress has included a flurry of media attention around the Weedbusters launch, local media picking up on Weedbusters events throughout summer, collaborative weed messages being consistently presented at trade shows, public queries for weed information, and community groups getting involved in weed control.

We are upping the profile of weeds and soon we will be targeting pathways of spread; this will involve hooking into the media and providing support and advice to communities. Our payback will be successful weed eradications, early interventions, weed-free zones, and increased budgets. By continuing to share resources, making the most of what is already going on, and motivating and empowering people, we can look towards a future where all New Zealanders are aware of and taking action to reduce the impact of weeds on the environment, economy and human health.

## Kerry Bodmin

Waitakere City Council

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*Kerry is the Parks Ecology and Policy Co-ordinator for the Waitakere City Council, where she has worked for the last three years. Her work covers a wide range of ecology and policy issues including biosecurity (e.g. painted apple moth), policy and strategies (e.g. weed strategy), and ecological advice on pest plants. Prior to working with Waitakere City Council, Kerry spent two years as field director at the Weedfree Waitakere Trust, which is involved mainly in tackling weed issues on private property, education, and liaising with Council and other agencies.*

### **Wild Willows and other weeds in Te Henga wetland, Waitakere City**

This regionally significant freshwater swamp straddles Waitakere City and Rodney District, on the West Coast of Auckland. It is bordered by a matrix of farmland and native bush, and is an important habitat for a number of bird species, including Australasian bittern and fernbird. The area is threatened by crack willow, and smaller but ecologically significant infestations of grey willow. Open water areas are threatened by Mexican waterlily, reed sweetgrass and alligator weed.

In 1994 Rodney District Council and Waitakere City Council initiated a joint project for flood mitigation that included the control of willow and other weeds. This presentation outlines control techniques for these species and the achievements of this programme.

Willow control methodologies have become more successful over time. Drill and inject techniques are coupled with foliar spray. The use of an airboat plus experienced contractors has improved accessibility and reduced weed hygiene issues.

There have been numerous outcomes of the willow control programme. Treatment of crack willow on stream banks has resulted in outstanding natural regeneration; however, significant reduction in Mexican waterlily and crack willow within the stream channel has resulted in an explosion of parrot's feather and water primrose. The opening of the main stream channel has had ecological and flood mitigation benefits, and has reconnected the community to the wetland.

## Keith Briden

Department of Conservation, Te Papa Atawhai

[kbriden@doc.govt.nz](mailto:kbriden@doc.govt.nz)

*Keith started working for DOC 12 years ago, first as a diver doing a sub-tidal survey of the Marlborough Sounds, and then spending a year in Head Office in the Animal Pest Control Section. This was followed by five years in Napier working as a recreational planner and also with animal and weed pests. Keith has been based in the Southern Regional Office for the last six years and in his current position is the key contact for ecological weeds, management of the Himalayan Thar policy, and managing permits for recreational hunting and commercial venison recovery.*

### **DOC's Quality Weed Management System**

The Department of Conservation has an annual weed control budget approaching \$10 million. A quality weed management system has been developed to ensure efficient and effective weed work is carried out within that budget. The system consists of a policy, standard operating procedures (surveillance, inventory, planning, monitoring, reporting and reviewing weed work) and tools (weeds database, science capability, national awareness/Weedbusters, and training).

DOC staff see many advantages in a systems approach to weed control, and the quality weed management system that has been developed by DOC is available for use by other agencies and organisations wanting to use a systems approach to their own weed work.

### **Management of Himalayan Thar - Future Direction?**

The control of thar has been, and will continue to be, a challenging work area. Stakeholder groups either see thar as a valuable resource to be managed, or as a conservation pest to be eradicated or controlled to low numbers. The 1993 Himalayan Thar Control Plan aimed to protect vegetation to an acceptable condition as well as to provide for hunting interests.

After 10 years DOC has achieved the operational objectives of the plan; this basically means keeping thar numbers below 10,000 animals, preventing further spread, providing opportunities for hunting, and monitoring vegetation. The draft 10-year vegetation monitoring report has now been received and has two basic findings. These are that the vegetation has improved over the 10-year period, and, that the vegetation would have improved faster if thar numbers had been lower.

In light of this, DOC is currently consulting with stakeholder groups about future options for the thar policy and plan. By July 2004 some future direction will have been decided.

## **Richard Calvert**

**AgriQuality Ltd.**

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*Richard is the National Service Manager for Livestock Biosecurity. He was previously the operations manager of Mycoplasma mycoides and Psittacine Pox Virus responses, and is currently the operations manager for the Asian Gypsy Moth and Pig Post-weaning Multisystemic Wasting Syndrome (PMWS) responses.*

### **First Response**

A description will be given outlining the process of notification and investigation for an animal disease enquiry. Response structure, surveillance methods, containment and eradication processes that would occur following a positive or "not negative" diagnosis to an animal disease such as Foot and Mouth Disease will be discussed.

## **Kevin Christie**

**EcoFX Pest Solutions Ltd.**

Kevinc@ecofx.co.nz

*Kevin Christie is a Business Manager with EcoFX Pest Solutions Limited based in the Waikato. He has more than 20 years experience in vertebrate pest management and Bovine Tb Vector management throughout New Zealand. In early 2003 Kevin was co-opted onto an expert working group with the Agriculture Industry Training Organisation to develop the framework for a new national qualification for Vertebrate Pest Management.*

### **Proposed Industry Training - Vertebrate Pest Management**

There has been significant change within the Vertebrate Pest Management Industry in New Zealand over the past 20 years. During this time a number of national qualifications have been available but most have failed to keep pace with the current rate of change. The National Possum Control Agencies as a representative body recognised that there was no broad based vertebrate pest management training for the industry and have initiated the development of a national NZQA certificate through the Agriculture Industry Training Organisation. An expert working group set up in 2003 developed a draft framework for industry training based on core, elective and pest-specific strands of unit standards.

## Ray Clarey

Greater Wellington Regional Council

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*Ray has over 40 years experience in the pest management industry holding senior positions on both North and South Island Pest Destruction Boards. He was involved with some of the first large scale Bovine Tb possum control operations in North Canterbury and later in the Wairarapa. In his role with Greater Wellington, Ray's focus is now on biodiversity and optimising ecological health where the challenges are diverse and the rewards satisfying. He has had a long and supportive role in industry training. Ray is the Local Government representative on the Management Committee of the National Possum Control Agencies.*

### Capital City's Mainland Island

The Miramar operation is the third area in Greater Wellington where possums have been eradicated as part of a long-term plan to establish a mosaic of safe havens for native flora and fauna. Jointly funded by Wellington City Council and Greater Wellington Regional Council, the 822 hectare operation was undertaken within an island of suburban housing, schools, parks, a prison, native bush reserves, coastal escarpments, a golf course, defence installations and industrial infrastructure. The programme was based on previously successful urban operations and relied upon positive input from the community for whom risk management was of paramount importance.

## Dr John Clayton

National Institute of Water and Atmosphere, Taihoro Nukurangi

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*John started working on freshwater lakes and aquatic vegetation over 30 years ago, and has focussed on submerged plant ecology and invasive species ecology and management ever since. John began working for the New Zealand Electricity Department in 1976, and then worked for MAF Ruakura (1978-1992), by which time the entire Aquatic Plant Management team was transferred to NIWA when Crown Research Institutes were established. John has successfully fought off many invasive incursions and restructuring impacts from alien bureaucrats and aggressive competitors since that time.*

### Freshwater Biosecurity research directions

This presentation will summarise some of the highlights and achievements in freshwater biosecurity, and will include a discussion on the present outstanding freshwater biosecurity issues to be addressed, and the future focus of NIWA's research directions. Foundation restructuring of research portfolios has encouraged greater integration between research providers that will now form the basis of a new integrated freshwater biosecurity research programme involving invasive weed species, pest fish and potentially other high-risk biota.

## Sarah Clinehens

Lincoln University

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*Sarah is a Master of Resource Studies student at Lincoln University working on a thesis entitled "HSNO and the Nursery Industry: Assessing possible triggers for non-compliance." Prior to postgraduate study Sarah worked for a non-profit organisation that assists public agencies with weed control and native plant revegetation in urban green spaces. These experiences heightened her interest in policies to prevent the introduction of potentially invasive plant species. Sarah's undergraduate degree is in Sociology.*

**HSNO: pushing plant imports underground?**

This presentation focuses on possible triggers for non-compliance of the nursery industry with HSNO's regulation of the importation of new plant species. Data from a series of qualitative interviews suggested problems with effective compliance. A quantitative questionnaire was used to investigate wholesale nursery operators' motivations for importing new plant species, their awareness of HSNO, their experiences with the Act, and their attitudes and beliefs about various aspects of HSNO. Data were analysed with the aid of a theory of compliance behaviour to identify possible triggers of non-compliance. This presentation will discuss these triggers.

**Dr Mick Clout**

**University of Auckland and IUCN Invasive Species Specialist Group**

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*Mick is a conservation biologist, an Associate Professor at the University of Auckland, and the founding Chair of the IUCN Invasive Species Specialist Group.*

**International Initiatives against invasives: the role of ISSG**

Invasive species are one of the main threats to biodiversity worldwide, especially on islands and in other isolated ecosystems. The role of the IUCN Invasive Species Specialist Group in helping to fight this global threat will be outlined.

**Greg Corbett**

**Environment Bay of Plenty**

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*Greg has been involved in pest management for 21 years, having worked in Central Otago and the East Coast of the North Island and with Environment Bay of Plenty for the last eight years. Since 2000 the majority of Greg's work has focused on Tb issues associated with East Taupo and the Urewera.*

**Tb surveillance using feral deer and pigs**

The potential wildlife-related spread of Tb from the Mohaka into the Urewera poses a significant risk to the Bay of Plenty and the National Pest Management Strategy objectives. Delimiting the extent of Tb is critical to minimising this risk. Environment Bay of Plenty in conjunction with the Hawkes Bay Regional Council have been using extensive feral deer and pig surveys and have trialled "sentinel" pigs for this purpose since 2001.

**Esther Francis – van den Bosch**

**HortResearch**

evandenbosch@hortresearch.co.nz

*Esther is a Plant Ecology student studying part-time for a Masters of Science at Waikato University. She has been working for HortResearch full time for the last four years as part of the Vigilant Herbicide and weeds team.*

**Woolly nightshade: friend or foe?**

Woolly nightshade (*Solanum mauritianum*) is a small, exotic tree with a swift growth rate that has been quietly invading New Zealand's countryside. It has an effective reproduction cycle that supports a large annual seed load, and the wide dispersion of the plant has reached a point where people feel the problem has become too large to deal with as many herbicides or mechanical removal have little effect. Educating the public to eradicate it also seems in most cases be falling on deaf ears. Rest assured there is always time for motivation and eradication. This is where my research fits in. Over the past months I have been looking at some of the common eradication methods used for this plant pest and their associated effects on the surrounding environment. It is this preliminary data that will be presented.

## **Dave Galloway**

**Auckland Regional Council**  
dave.galloway@arc.govt.nz

*Dave is the Team leader for Auckland Regional Council's Biosecurity Team, responsible for pest plant and animal control staff in the northern half of the Auckland Region. He also manages animal control projects in the same area.*

### **Rat eradication project on Rakino Island.**

A background to the operational aspects, ongoing monitoring and problems encountered during a successful rat eradication on Rakino Island, a predominantly privately owned Island in the Hauraki Gulf.

## **Barry Green**

**Auckland Regional Council, Regional Parks**  
barry.green@arc.govt.nz

*Barry is a Senior Ranger, Conservation and Heritage, Northern Sector Regional Parks, for the Auckland Regional Council. He has 29 years ranger service in Auckland Regional Parks, and has been around long enough to have planted exotics on parks and lately to have cut them down and replace them with natives.*

### **Tawharanui Open Sanctuary**

The Tawharanui Open Sanctuary will be New Zealand's first integrated sanctuary where farming, public recreation and conservation of native species will be combined. The sanctuary is located within the 588 hectare Tawharanui Regional Park. Set on a remote peninsula, the park boasts one of the Auckland regions most beautiful white sand beaches, rolling pastures, shingled bays, native coastal forest and regenerating wetlands.

Mustelids, cats, possums, hedgehogs and rats are decimating our native plants and animals. To rid the park of these pests, a predator-proof fence has been constructed across the peninsula and will be backed up by intensive pest control on the park and surrounding private land.

A group of supporters have formed the Tawharanui Open Sanctuary Society Incorporated to raise funds for the project and assist with pest eradication, public education and restoration of wetlands and forest.

## **Tony Hall**

**Environment Bay of Plenty**  
tonyh@envbop.govt.nz

Tony has a background in soil conservation and land management, originally with catchment authorities. Since 1990, Tony has been the Manager, Land Resources with Environment Bay of Plenty, responsible for the areas of land management, biodiversity protection and enhancement, pest plant and animal management, and environmental care programmes.

### **Biosecurity for Biodiversity – Working Together in the Bay of Plenty**

The presentation will briefly introduce the status of biodiversity in the Bay of Plenty and the pressures that it faces. It will outline the response that Environment Bay of Plenty has taken, with emphasis on working with communities, landowners and agencies in identifying priorities, establishing working partnerships, and providing resource support. Some examples of successful programmes and initiatives in the region will be presented.

## Nick Hancox

Animal Health Board  
hancoxn@ahb.org.nz

*Nick has been the Communications Manager of the Animal Health Board since 1995. He was previously employed as Communications Officer for the Department of Conservation, West Coast and Northland Conservancies, and has been active in public communications and consultation in support of vertebrate pest control strategies and operations for both conservation and Tb control over the past 15 years.*

### **Progress towards Freedom from Bovine Tb for New Zealand**

Outline of the National Pest Management Strategy for Bovine Tuberculosis, updating progress towards achieving strategy objectives, with emphasis on Tb vector control issues.

## Barbara Hayden

National Institute of Water and Atmosphere, Taihoro Nukurangi  
b.hayden@niwa.co.nz

*Barbara is Leader of the National Centre for Aquatic Biodiversity and Biosecurity. She has been involved in marine invasive species research and policy development, particularly related to ballast water and other ship-mediated introductions of marine organisms, for 15 years. She established the NZ Ballast Water Working Group in 1988 (now Marine Biosecurity Consultative Committee (MBCC)). Barbara has been a scientific advisor on marine invasive species issues to the NZ Aquaculture Federation, the Ministry of Agriculture and the Ministry of Fisheries.*

*The co-author of this paper is Graeme Inglis, who is Science Leader for Marine Biosecurity in NIWA. He is currently project leader for a national programme of baseline surveys of New Zealand's ports and high-risk entry points for introduced marine species and for a national series of targeted surveillance for seven notifiable marine pests. Graeme has a PhD in experimental ecology from Sydney University and was formerly a Senior Lecturer in Environmental Studies at James Cook University. His research interests are in invasive species biology, human impacts on marine environments, and seagrass ecology.*

### **Marine Invaders**

We will discuss New Zealand's current marine invasive species status and the work being done to improve our knowledge of the organisms that are already here. This includes baseline surveys of New Zealand's ports and high-risk entry points. There have been few impact studies on marine invasive species in New Zealand but work on preventing more incursions has been growing. This includes collaboration on development of international ballast water controls, identification of risk factors associated with hull fouling on international vessels, and the development and implementation of tools for targeted surveillance for marine pests. As with terrestrial pests, techniques for management and control of marine invaders are major challenges for the future.

## Dr Chrys Horn

Manaaki Whenua, Landcare Research  
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*Chrys works as part of the "Collaborative Learning for Environmental Management" group at Landcare Research. This group works to understand how people can work with others to achieve the outcomes they want in Resource Management. Part of the work involves talking to existing groups and part of it involves working alongside groups and individuals who are interested. Their aim is help groups learn what works best for them, to think about what tools and knowledge they need and hopefully to carry that learning through to other groups and partnerships. As such, the group's work includes a range of topics from information management, adaptive management, participatory review processes, and monitoring and evaluation processes.*

### **Building partnerships: reflections on groups in biodiversity and biosecurity.**

This presentation reflects on a number of interviews, conversations and projects that involved the development and maintenance of partnerships between different stakeholder groups. It provides a summary of some of the lessons that have emerged across these different cases.

## **Gordon Hosking**

**Frontline Biosecurity Ltd.**  
gordon.hosking@xtra.co.nz

*Gordon is a forest health and biosecurity specialist with 30 years experience. A past director of forest biosecurity with MAF, Gordon has spent the last five years as an independent consultant and managing director of Frontline Biosecurity. This company specialises in the development and introduction of quarantine strategies such as heat treatment of used vehicles, environmentally acceptable fumigants, and quarantine risk management.*

### **Community impacts of forestry incursions.**

Responses to newly established pests and diseases such as white-spotted tussock moth and painted apple moth inevitably impact on the affected communities from access onto private property to the aerial application of pesticides. The support of such communities is critical to the success of eradication programmes. The presentation discusses key activities that build such support.

## **Ken Hunt**

**Department of Conservation, Te Papa Atawhai**  
kghunt@doc.govt.nz

*Ken has been with DOC since its creation. He was first based at Taumarunui, working within the Whanganui National Park; for the last 14 years he has been based in Hawkes Bay, originally as a Field Centre Manager and for the past five years as Area Manager. In all these positions there has been a focus on animal pest control.*

### **Deer control and forest restoration in Kaweka Forest Park**

Scientific advice to DOC indicated that deer browse within the Mountain Beech range of the Kaweka Forest Park was preventing regeneration of this species. DOC convened a working group of interested organisations that agreed that control was required. Following this, an operational plan, focussing on aerial culling, was developed. This plan has been operative for six years now. This presentation will report on the level of control and the subsequent outcomes.

## **Arthur Hinds**

**Whenuakite Kiwi Care Group**  
Co-presenter with Peter Russell

*Arthur is a farmer from Whenuakite, following in the footsteps of several generations of his family before him. He is the chairman of the Whenuakite Kiwi Care Group, a member of Environment Waikato's northern zone Biosecurity Advisory Subcommittee, and has held numerous posts on other advisory groups such as the Thames Agricultural Advisory Committee. Arthur is a devoted environmentalist and combines farming with sustainable environmental practices.*



## Ron Keyzer

Department of Conservation, Te Papa Atawhai

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*Ron is an animal pest contractor; he assisted in the development of a draft joint Wallaby Control Plan with Environment Bay of Plenty, Environment Waikato, and Department of Conservation. Ron has worked for the Department of Conservation and was responsible for one of the Okataina aerial wallaby control operations.*

*This paper is co-written with Dave Hunt, Technical Support Manager, Bay of Plenty Conservancy, DOC. He has been involved with island pest animal eradications on Rangitoto, Motatapu and at Tuhua.*

### **The status and control of wallabies in the Rotorua district**

Dama wallaby were liberated in the Bay of Plenty around 1912 and have now expanded their range to over 170,000ha centred on the Rotorua lakes. Their spread has been relatively slow, and their impact has been assessed by use of enclosure plots, research projects and anecdotal reports.

They have established in both the Bay of Plenty and Waikato Regional Council administered lands. Both regional councils have recently reviewed their Regional Pest Management Strategies and wallabies are classed as eradication pests with objectives for eventual total control (zero population). The Department of Conservation, Bay of Plenty and Waikato Conservancies are also actively involved in wallaby management on lands they administer.

There are four management options for wallaby; status quo, do nothing, control to low numbers, and total control. The total control option is the preferred approach and is consistent with the applicable Regional Pest Management Strategies. Over and above this there is also an ability to have the species declared an unwanted organism under the Biosecurity Act.

The total control option appears to be an appropriate approach and consistent with the two Regional Pest Management Strategies and the Department of Conservation view of this species. To implement this a three prong approach is suggested - public awareness, operational management, and research (especially monitoring wallaby at low numbers).

## Dr Darren Kriticos

Forest Research

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*Darren holds a PhD on the use of simulation models to assess the impacts of climate change on woody weeds in Australia. His post-doctoral work in Australia with the Cooperative Research Centre (CRC) for Weed Management Systems was on integrated weed management systems and biological control systems. Darren recently moved to this side of the ditch to build up the ecological modelling expertise in Forest Research (FR), and is now heading up the FR program on gum leaf skeletoniser.*

### **The gum leaf skeletoniser - potential for spread in New Zealand**

A CLIMEX model of the potential distribution and relative abundance of *Uraba lugens* (gum leaf skeletoniser) in New Zealand is presented. The model highlights those areas of New Zealand where eucalypt plantation assets are likely to be under threat of attack by the gum leaf skeletoniser.

## John Innes

Manaaki Whenua, Landcare Research  
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*John joined Forest Research Institute, Rotorua, in 1980, and has been in government science ever since. His main research interest is pest mammals, especially rodents, and their interactions with declining native birds on the New Zealand mainland. John now works for Landcare Research.*

### **Magpie study – findings and implications**

Landcare Research and Waikato University monitored bird responses to a large magpie control programme undertaken by Regional Councils, and studied behavioural interactions between magpies and other birds. Counts of some common introduced birds increased after magpie control. Kereru and tui counts increased a little and variably, respectively.

Literature and anecdotes report that magpies attacked 43 other bird species, but our observations showed that:

- a) only territorial magpies attacked other birds;
- b) only 6% (39/622) of passing birds were attacked, and
- c) no birds were actually hit by magpies.

Magpies are not important nest predators. We conclude that magpie attacks are actually rare, but conspicuous, and literature and public reports are biased to sensational events. The cost of magpie aggression for other birds is mostly some small (50-100m) movement, the cost of which is hard to evaluate but small. It is possible that movements of tui and kereru in a fragmented landscape can be greatly affected at particular locations by particular magpies, but we have not demonstrated this. We do not recommend large-scale magpie control to recover native birds. Control should instead focus on pest mammals in native forest remnants when native birds nest.

## Graeme La Cock

Department of Conservation, Te Papa Atawhai  
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*For the past seven years, Graeme has been a technical support officer for weeds, threatened plants and indigenous forestry in DOC's Wanganui Conservancy. Previously Graeme was involved in seabird research and worked for a conservation agency in South Africa.*

### **Weeds and threatened plants on the South Taranaki cliffs: from helicopters to hand weeding.**

There are several indigenous plants in South Taranaki that are either nationally or regionally threatened or rare. Some are endemic to the region. These occur on the cliff face or in herb fields at the tops of the cliffs. A range of weeds pose a threat to the survival of these plants, from the huge Chilean rhubarb (*Gunnera tinctoria*) on the cliffs to the flat weeds and pasture grasses that threaten the herb fields. This presentation will concentrate on the different weed management approaches taken to protect the threatened plants and habitats present, and the public consultation associated with the Chilean rhubarb programme.

## Rebecca Lander

Department of Conservation, Te Papa Atawhai, Rotorua Lakes Area Office  
rlander@doc.govt.nz

*Rebecca has spent the last two years working as a biodiversity ranger for the Rotorua Lakes Area Office of DOC. She is primarily responsible for survey and monitoring both flora and fauna, this includes undertaking the fieldwork for the Pest Fish programme.*

### **Collaborative Pest Fish Management in the Bay of Plenty**

This paper starts with a brief overview of the pest fish threats facing the Bay of Plenty region, and takes a more in-depth look at the way the Department of Conservation and Environment Bay of Plenty manage them together.

A three-pronged approach is used, encompassing public awareness, monitoring, and response. This paper looks at the campaigns currently employed and at the results of surveys aimed at assessing their effectiveness; the tools used to monitor for pest fish presence and the problems associated with their use; and the systems we use to respond to and report on pest fish sightings. The presentation concludes with a summary of what we have achieved so far and where we are heading in the future.

## **Mark Lonsdale**

**Commonwealth Scientific and Industrial Research Organisation, Australia (CSIRO) and Global Invasive Species Programme**

mark.lonsdale@csiro.au

*Since January 2004, Mark has been the Chair of the Global Invasive Species Programme. He currently works as Assistant Chief, CSIRO Entomology, Canberra; past roles in CSIRO include strategy director (Environment); program leader, Weed Management Program; and weed ecologist. In overseas roles Mark has been Officer-in-Charge, CSIRO European Laboratory, Montpellier, France, and a lecturer in biology, Federal University of Technology, Bauchi, Nigeria*

*Mark is a board member of Pest Animal Control CRC and a member of the Australian Weeds Committee. He organised the development process and wrote the business plan for the successful re-bid of the CRC for Australian Weed Management (A\$3M pa for 7 years). Mark coordinated CSIRO's new research program on ecological implications of GMOs, and participated in the development and writing of the Healthy Country Flagship business case.*

### **Framework for the Integration of Biosecurity and Biodiversity: The Role of the Global Invasive Species Programme**

The Global Invasive Species Programme (GISP) is a joint venture between a number of agencies keen to reduce the impact of invasive species throughout the world. It aims to package and deliver the best available management information from anywhere in the world to wherever it is needed. I will discuss the challenges involved in carrying out this mission.

## **John Mather**

**Environment Bay of Plenty**

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*John has worked within Environment Bay of Plenty's land resources section since January 1991. A major project within that time has been to advance the woolly nightshade management programme. With a background in the dairy and horticultural industries, John has a horticultural management qualification. He was awarded a Churchill Fellowship in 1995, travelling to Australia and the USA to investigate the control of purple nutsedge. John is the pest plant co-ordinator for Environment Bay of Plenty.*

### **A summary of woolly nightshade management in the Bay of Plenty**

Environment Bay of Plenty began an intensive management programme for woolly nightshade in 1991. This presentation will give an overview of the control programme, comment on management options including enforcement and incentive schemes, and outline factors for consideration when regions advance the control of established pest plants.

## **Tim McKenzie**

**University of Canterbury- School of Forestry**  
timothym@boffamiskell.co.nz

*Tim has have recently taken a position as an Ecologist with Boffa Miskell Limited in Auckland. Prior to joining BML he completed the Master of Forestry Science degree majoring in the use of geographical information systems and wildlife management; and a Bachelor of Science degree majoring in zoology at the University of Canterbury. Tim was awarded the New Zealand Biosecurity Institute Study Award for 2002 to assist him in the research he is outlining in this presentation.*

### **Application of spatial technology for wildlife management**

The research conducted to form the basis of this presentation involved the use of Global Positioning System (GPS) collars on red deer and the categorisation of landscape resources via remote sensing. Integration of these components and the elucidation of results were conducted in Arc View Geographic Information System (GIS).

## **Randall Milne**

**Environment Southland**  
randall.milne@es.govt.nz

*Randall has been working for Environment Southland as a Biosecurity Officer for the past three and a half years. Before moving to the mainland, he worked for Greater Wellington learning the biosecurity ropes. Randall has a background in horticulture, ecology and conservation. His interests include working with threatened plants, ecological restoration and spending time with his family.*

### **Sherwood Forest**

Sherwood forest is a 47ha forest remnant containing both alluvial floodplain and riparian forest species, along with seven threatened plant species. It is the largest remnant of this type on the Southland plains. Most of the forest has been fenced by the owners and is protected under a QEII Trust Open Space Covenant.

Snow and severe frosts in July 1996 caused the death of over 200 mature matai and kahikatea, opening up the canopy. This resulted in a proliferation of some weed species.

In 2002, Biodiversity Southland received Biodiversity Condition funding to assist restoration work in Sherwood Forest. This presentation is a summary of the work that has occurred to help protect and restore this significant forest remnant.

### **Mike Mohi**

**Nga Whenua Rahui**

mmohi@doc.govt.nz

*Mike spent 30 years farming and as a shearing contractor; since 1991, Mike has had the role of Kaitakawaenga (Executive Officer) for the ministerial committee reporting to the Minister of Conservation for the formal protection of privately-owned Maori indigenous areas throughout New Zealand through Nga Whenua Rahui.*

#### **Nga Whenua Rahui - Protection of Maori-owned indigenous areas.**

Nga Whenua Rahui is a contestable Ministerial fund that was established in 1991 to help achieve the objectives of the Indigenous Forest Policy. In 1998 the scope of the fund was widened to include non-forest ecosystems.

The purpose of the fund is to protect indigenous ecosystems on Maori land that represent the full range of natural diversity originally present in the landscape by providing incentives for voluntary conservation ([www.doc.govt.nz](http://www.doc.govt.nz)).

### **David Moore**

**Environment Bay of Plenty**

davidm@envbop.govt.nz

*David is the Vector Manager for Environment Bay of Plenty, and has been in the pest destruction industry since 1973 when he started as a rabbitier. He became a Pest Board Supervisor, and joined EBOP when the pest board was amalgamated into Regional Council in 1989*

#### **Biosecurity Incursions in the Bay of Plenty**

This paper will start with an overview of the biodiversity values within the Bay of Plenty with details of economic, geothermal resources and areas of biodiversity at risk. It will then cover past biosecurity incursions to the region via the Port of Tauranga: what species have been identified, and the risk each species poses to biodiversity values. Links that Environment Bay of Plenty has established with the responsible organisations such as MAF Border Control, MAF Biosecurity Authority and others will also be outlined. The tools available to effect control of new incursions and a summary of what has been achieved to date and where we may be heading in the future will also be included.

### **Dave Rowe**

**National Institute of Water and Atmosphere, Taihoro Nukurangi**

d.rowe@niwa.co.nz

*Dave Rowe is a fisheries biologist and is the fish group manager at NIWA Hamilton. He has 25 years experience with freshwater fish in New Zealand. In the 1970s, he helped develop the use of grass carp for exotic weed control in lakes, and in 1980, his team eliminated two populations of*

*exotic fish in a New Zealand lake with rotenone. More recently, his research has been focussing on the impact of exotic fish on both native biodiversity and lake water quality.*

### **Freshwater pest fish impacts**

The impacts of exotic fish such as gambusia, rudd, tench, catfish and perch in New Zealand have been largely out of sight and therefore assumed to be negligible. However, recent studies indicate that these species can, under some circumstances, severely reduce native species, degrade lake environments, and reduce water quality. It is becoming increasingly apparent that these species are pests in some waters and that they need to be controlled. Future research is therefore needed to determine where they are a pest and to develop appropriate control technologies for these locations.

## **Peter Russell**

**Environment Waikato**

peter.russell@ew.govt.nz

*Peter is the Programme Manager at Environment Waikato responsible for Biosecurity Operations in relation to the Regional Pest Management Strategy. Part of that involves working with communities and the Crown to protect and enhance regional biodiversity. Pest control is often the single biggest effective action required to bring about changes.*

### **Whenuakite Key Ecological Site - Harnessing Community Efforts to save a New Zealand Icon.**

The Whenuakite area on the east coast of the Coromandel Peninsula is a high priority and significant conservation area. It includes magnificent coastal vistas and the last large intact east coast coastal forest between Auckland and Wellington, and there are kiwi present. A strong partnership between Environment Waikato, DoC and the community have collectively created a sanctuary for kiwi, which are constantly under threat from marauding stoats and dogs. Presentation will touch on the specific achievements of the group and focus on the attributes needed for success.

## **Sarah Russell**

**Australian Quarantine and Inspection Services**

Sarah.Russell@aqis.gov.au

*Sarah has held a variety of entomological research positions including researching biological control agents for Australian paperbarks, now a pest species in the Florida everglades, with the USDA. She was involved in the environmental impact assessment of the Fly River in Papua New Guinea in the BHP compensation claim in 1997.*

*Following this project she held a three-year position with the Australian Army Malaria Institute studying malaria and mosquito molecular taxonomy. During her army stint Sarah learnt much about mosquitoes and held the dubious responsibility of forcing mosquitoes to mate under laboratory conditions in order to perpetuate the colonies kept in culture at the unit. A large proportion of her time was also spent collecting mosquitoes in the Shoalwater Bay training Area and then testing them for the presence of various arboviruses such as Ross River and Murray Valley Encephalitis. She is still involved with army life and holds a position as Captain in the army reserves as an entomologist at AMI.*

### **Nature Made Australia Unique. Quarantine Keeps It That Way**

There are many pests and diseases that could have disastrous effects on Australia's animals and plants. The Australian Quarantine and Inspection Service has been described as the only thing that stands between Australia and devastating pestilence and aims to maintain Australia's highly favourable animals, plant and human health status.

## Alan Saunders

**Invasive Species Specialist group (IUCN)**

a.saunders@auckland.ac.nz

*Alan recently left DOC after 30 years in species recovery, habitat surveys and pest management (Wildlife Service and DOC); his most recent role was to coordinate DOC's "Mainland Island" projects. Alan is currently coordinating the ISSG's Cooperative Islands Initiative, which is focused in the Pacific and aimed at preventing invasions, and eradicating or controlling pests where this is feasible. He is based at Auckland University.*

### **Islands and mainland islands: biosecurity at a landscape scale.**

A look at the evolution of pest management in New Zealand, and the transfer of NZ pest management skills and philosophies into the Pacific, and elsewhere. We will consider whether the war against pests will ever be won, and whether we, in New Zealand, can effectively address the 'enveloping silence' caused by exotic pests.

## Willie Shaw

**Wildland Consultants Ltd.**

willie@wildlands.co.nz

*Willie is Principal Ecologist and Managing Director of Wildland Consultants Ltd, based in Rotorua. He is a very experienced ecologist who has consulted widely on ecosystem and species restoration, natural area surveys, assessments of ecological effects, and assessments of ecological significance. He has particular expertise in ecological restoration and the assessment of land use effects and has undertaken many assessments of the ecological effects of a wide range of urban and rural land uses.*

*Willie was previously employed as a scientist and senior manager specialising in vegetation ecology, mapping and natural area management by the Department of Conservation and the Forest Research Institute. His work has included field studies throughout New Zealand (including its offshore islands), and more widely in the Pacific. He also worked on nature conservation in urban and rural settings for a consultancy business in Christchurch.*

*Willie is the author of more than 200 ecological and botanical papers, reports, articles and species lists, including more than 100 consultancy reports, and is a previous chairperson of the Whirinaki Conservation Park Advisory Committee and member of the East Coast National Parks and Reserves Board. Willie has also lectured in ecology, nature conservation and natural area management and his strong field background also includes self-employment as a professional hunter in the North and South Islands.*

### **Indigenous biodiversity in the Bay of Plenty Region - Biosecurity Issues and Threats**

The Bay of Plenty Region continues to be one of the fastest growing parts of New Zealand. This growth is associated with a large port, expanding urban centres, and a growing network of roads. This growth often triggers potential pressure increases for natural systems, especially at regional growth nodes.

This paper will provide an overview of the indigenous ecosystems, habitats, and species of the Bay of Plenty Region. This picture will be used to provide a framework for analysis and discussion of key management issues and biosecurity threats associated with selected parts of the region. The paper will cover issues associated with terrestrial shrubland and forest from the coast to upland habitats, offshore islands, urban centres, dunelands, marine and estuarine environments, and freshwater wetlands. There is also an increasing regional focus on ecological restoration, as we will hear from other speakers, and these initiatives are being led by a diverse range of community groups, iwi, agencies, landowners, and corporate businesses.

## Monica Singe

**Southern Monitoring Services and NZ Biosecure**

Monica.singe@smsl.co.nz

*Monica is a Southern Monitoring Services company principal and environmental scientist with NZ BioSecure; she has been based in the Kaipara since the Southern Saltmarsh Mosquito eradication programme began in Oct 2002.*

### **Southern Saltmarsh Mosquito (SSM): Kaipara Eradication Programme (KEP)**

An overview of the SSM – KEP and introduction to the sentinel site programme: provide a brief history and biology of SSM in NZ and its significance as a Ross River Virus vector and the sentinel site programme as an operational tool for the Kaipara programme. Tide, rainfall, temp and salinity data at each site providing an indication of environmental triggers for SSM in the Kaipara.

## Cam Speedy

**EPRO Ltd.**

cam@epro.co.nz

*Cam worked for DOC for 15 years in Biodiversity Management before moving to Epro as Operations Manager to co-ordinate their extensive (annual) animal pest programmes and to work with private organisations on various biodiversity and wildlife management programmes.*

### **Development of a Deer Repellent for 1080 possum baits**

Aerial 1080 operations often kill wild deer as well as possums. While this by-kill can have conservation and bovine Tb benefits in some situations, it causes significant and widespread opposition to this method of possum control from hunters generally, and from communities where hunting is an important economic or recreational activity.

Epro Ltd contracted Landcare Research to test a bait additive for palatability to possums but aversion by deer. The additive appeared to meet the criteria during initial pen trials. Results from five subsequent Animal Health Board funded field trials where deer and /or possum kills were monitored are presented. These results show that the Epro deer repellent can be successfully operationalised on a landscape scale of thousands of hectares to significantly reduce, if not eliminate, deer by-kill during aerial 1080 possum control operations, without compromising possum kill.

## Dean Stronge

**Department of Conservation, Te Papa Atawhai**

dstronge@doc.govt.nz

*Dean is the Technical Support Supervisor (Wild Animal Management) for Whanganui Conservancy, DOC.*

### **Goat Control in Egmont National Park**

Background will be given on the history of goat control in Egmont National Park, and the unique values of the park that are threatened by goat populations. Data on these populations will be given, along with an outline of current control methods and options for the future



## **Richard Toft**

**Manaaki Whenua, Landcare Research**

toft@LandcareResearch.co.nz

*Richard is an insect ecologist working on the impacts of invasive species on native insect communities, restoration of native invertebrate communities in disturbed landscapes, and improved sampling methods. His pet groups are the fungus gnats and crane flies.*

### **Aliens among us: looking for foreign insects inside the borders**

When a new species establishes, there is a lag period between initial arrival and subsequent population growth and dispersal. The earlier we can detect founding populations, the wider the range of options there are for management or eradication. There is, however, little generalised surveying of invertebrates in urban areas as most surveillance is targeted toward specific organisms. Potential methods for non-targeted surveillance and some of the issues and problems surrounding it will be discussed.

## Tetsuro Uesugi

Ministry of the Environment, Japan

tetsuro\_uesugi@env.go.jp

*Tetsuro is the Biodiversity Coordinator, Ministry of the Environment, Japan; he is currently the Acting Director of the Office of Policy and Measures for Invasive Alien Species. Since July 2003, Tetsuro has been involved in the establishment and enforcement of Japan's new Invasive Species Act.*

### **Framework for Biosecurity and Biodiversity - Japan**

This talk will introduce the problems that Japan faces from invasive alien species and outline Japan's new Invasive Species Act that was established in June this year. This act aims to implement Article (8) of the Convention on Biological Diversity.

## Astrid van Meeuwen Dijkgraaf

Department of Conservation, Te Papa Atawhai

adijkgraaf@doc.govt.nz

*Astrid is the Conservancy Advisory Scientist for Wanganui Conservancy and has been with the Department of Conservation for six years. In her current job Astrid gives advice on a range of conservation related issues. The aerial foliar browse index technique was developed during her previous job with Wanganui Conservancy as Forest Ecologist.*

### **Aerial Foliar Browse Index monitoring of forests**

One of the roles of the Department of Conservation is to protect conservation values in areas managed by the Department. This includes reducing the threat from introduced mammalian species, such as possums, to native biodiversity (Department of Conservation, 2002). The Department uses various methods to reduce possum populations and the effectiveness of this control needs to be monitored to ensure that desired outcomes are attained. Often, the desired outcome for forests is a reduction of foliage damaged by possums and an increase in the health and productivity of the forest canopy.

Payton et al (1997; 1999) developed the Foliar Browse Index method; a ground-based assessment of plant species to measure impacts of possums on forests and vegetation responses to possum control. The method uses permanently marked trees to measure trends in canopies and possum damage to leaves and stems. It was initially used in Wanganui Conservancy but was difficult and costly in inaccessible and remote terrain. The method has been modified by using a helicopter to view indicator species. The modifications to the Payton (1997; 1999) method are explained and data are presented comparing ground-based and aerial monitoring.

## David Wansborough

Ministry of Agriculture and Forestry

david.wansbrough@maf.govt.nz

*David is the Manager of the Biosecurity Policy Co-ordination Group in MAF Biosecurity. He is currently on secondment to the Biosecurity Strategic Unit*

### **An Outcomes Framework for Biosecurity/ Framework for Integration of Biosecurity and Biodiversity Part II**

Biosecurity is not an outcome in itself but a means to achieve social, environmental and economic outcomes. But those high level outcomes are difficult to measure and are not particularly meaningful for guiding management decisions about allocating resources across the system and evaluating system performance. David will outline the work done by the Biosecurity Strategic Unit on developing an outcomes framework for biosecurity to assist with tasks such as resource allocation and performance monitoring.

## **E R (Ray) Weaver**

**Pohutukawa Trust New Zealand**

[erweave@xtra.co.nz](mailto:erweave@xtra.co.nz)

*Ray started his career with NZ Forest Products Ltd as a mechanical engineer and after 15 years took on a new challenge with the firm in the Technology Division managing new product development. He was involved in such diverse projects as developing adhesives from pine bark polyphenols and mineral fibre from basalt rock and looking after the company's intellectual property. He now has a small accredited laboratory working in the field of applied physics, and is a member of the Physical Sciences Professional Advisory Committee of the New Zealand accreditation body IANZ. A keen interest in geology took him to Kawau Island during the 1950's. There he saw the collapse of biodiversity advancing and when bird numbers plummeted soon afterwards he decided to do something about it.*

### **The Restoration of Kawau Island.**

Kawau Island, situated in the inner Hauraki Gulf has a land area of just over 2000ha. The Island is mostly privately owned (90 % of the land area), with the remaining area being public reserve administered by the Department of Conservation. Some of the steeper land has never been completely clear felled and contains a range of indigenous forest trees and plants.

Pastoral farming which took place on more gentle slopes ceased when wallabies drove the farmers off the land by 1960. The pasture reverted under the influence of wallaby browsing to an almost monoculture of kanuka, which is one of very few species on Kawau unpalatable to them. The wallabies depend upon the emerging seedlings from the mature remnant trees for their food supply, thriving during cycles of good growing seasons and literally starving to death during prolonged drought.

The landowners began the restoration project in 1985 initially using Timms Traps to achieve a decisive reversal of the rapid decline in pohutukawa and have since moved on through a campaign to raise awareness of wallaby damage to a pest eradication phase now underway. Qualifying as a Landowner Initiatives Project under the Auckland Regional Council's Auckland Regional Pest Management Strategy 2002 – 2007, the Pohutukawa Trust New Zealand will eradicate wallabies within the term of the Strategy.

## **Andrew Wilke**

**Hawke's Bay Regional Council**

wilke@hbrc.govt.nz

*Andrew grew up in Murchison where he received close instruction in pulling ragwort, shooting possums and destroying biodiversity through land development on the family farm. After pretending to be a planner for a couple of years he saw the light and became a Biosecurity Policy Analyst with Environment Waikato in 1993. Since that time he has appeared and re-appeared in several biosecurity guises with the Auckland Regional Council and for the last three years as Biosecurity Manager at Hawke's Bay Regional Council.*

### **The Two Bios from a Regional Bureaucrats Perspective**

Biosecurity at the regional level has a long history, which dates back to single species Pest Destruction Boards. This historical link has been confirmed through the development of Regional Pest Management Strategies under the Biosecurity Act. RPMS's are useful tools for controlling single species' across a wide area but become less useful when trying to achieve biodiversity outcomes at a site level. The role of regional councils with respect to biodiversity is less well defined but biodiversity is included in plans made under the Resource Management Act. Activities include wetland protection and rules regarding land use. Local authorities also have a biodiversity protection role under the RMA.

Fortunately legislation does not rule over all at the regional level and landowners have been getting on with the job of protecting and enhancing biodiversity with or without 'plans'. Biosecurity is a vital component of improving biodiversity and more integration needs to occur. In particular the concept of protecting land through covenants and fences needs to be tempered with the fact that possums, rats, ferrets and weeds will continue to flourish despite those fences and covenants.

## WORKSHOP FACILITATORS

### **Joanna Goven**

**University of Canterbury**

joanna.goven@canterbury.ac.nz

Dr. Joanna Goven has a Masters and Ph.D. in political science from the University of California - Berkeley. Her research focuses on the social implications of new technologies, particularly genetic technologies, as well as on public participation in decisions about those technologies. She is the Deputy Director of the New Zealand Institute of Gene Ecology and the founder and convenor of the Science and Technology Studies Network. She is currently contracted to three active research projects, in which she is: investigating the social implications of emerging medical biotechnologies; developing resources and methods for community evaluation of technologies for disposing of waste; and developing mechanisms for community participation in rapid responses to exotic pest incursions.

### **Lynley Hayes**

**Manaaki Whenua, Landcare Research**

hayesl@landcareresearch.co.nz

Lynley works for Landcare Research at Lincoln. She is part of a team that develops biological control programmes for weeds. In particular Lynley works with end users to help them to be able to make the most of this technology as soon as it is developed. Lynley has also been the President of the New Zealand Biosecurity Institute for the past five years.

### **Dr Chrys Horn**

**Manaaki Whenua, Landcare Research**

hornc@LandcareResearch.co.nz

Chrys works as part of the “Collaborative Learning for Environmental Management” group at Landcare Research. This group works to understand how people can work with others to achieve the outcomes they want in Resource Management. Part of the work involves talking to existing groups and part of it involves working alongside groups and individuals who are interested. Their aim is help groups learn what works best for them, to think about what tools and knowledge they need and hopefully to carry that learning through to other groups and partnerships. As such, the group’s work includes a range of topics from information management, adaptive management, participatory review processes, and monitoring and evaluation processes.

## POSTER PAPERS

### David Burnett

National Institute of Water and Atmosphere, Taihoro Nukurangi / Auckland University  
d.burnett@niwa.co.nz

*David Burnett is a doctoral student studying at Auckland University in conjunction with NIWA and Auckland Regional Council.*

#### **Evaluation of potentially invasive aquatic plants under different temperature regimes**

Factors that allow some plant species to become invasive in aquatic environments are poorly understood at present, making reliable risk assessments difficult for recent introductions and those species that do not have a history of weediness overseas. This poster presents initial results from a system designed to grow plants at different water temperatures while maintaining diurnal temperature variation. Information derived from this system will contribute to NIWA's Weed Risk Assessment model and assist in predicting potential impacts of invasive species in New Zealand.

### DE Hofstra<sup>1</sup>, T Edwards<sup>1</sup>, JS Clayton<sup>1</sup>, J Shearer<sup>2</sup>

<sup>1</sup>National Centre for Aquatic Biodiversity and Biosecurity, National Institute of Water and Atmosphere, Taihoro Nukurangi

<sup>2</sup>US Army Corps of Engineer Research and Development Centre.

D.Hofstra@niwa.co.nz

#### **MT – Biocontrol for Submerged Aquatic Weeds**

New Zealand's lakes and waterways are increasingly under threat from the advance of invasive submerged aquatic weeds, and water-body managers require effective and publicly acceptable methods to manage weed problems. The use of fungal pathogens as biological control agents for invasive aquatic weeds offers a viable alternative to more traditional management techniques. In the USA, the fungus *Mycoleptodiscus terrestris* (MT) has been used to control submerged aquatic weeds in field trials and is currently being formulated for commercial use. In New Zealand several fungal plant pathogens, including MT, have recently been isolated from aquatic weeds. Subsequent pathogenicity testing of MT on submerged weeds species has shown that this indigenous fungal pathogen has potential for further development as a biocontrol agent.

### Liza Preethy Koshy

International Global Change Institute (IGCI), University of Waikato  
l.koshy@waikato.ac.nz

*Liza's research interests are in applied ecology. She has a BSc (ecology/ environmental chemistry), University of Auckland; MSc (Marine Science), University of the South Pacific and is currently undertaking a PhD programme at IGCI, University of Waikato. I am interested in spatially integrated assessments of the combined effects of climate change and land-use change on pest plants.*

#### **Climate change and forest fragments**

Climate change acting primarily on temperature and precipitation regimes is likely to extend the climatic suitability for several pest plant species (particularly vigorous tropical invasives) in New Zealand. As well, future urban expansion and habitat fragmentation via land-use changes are expected to open new areas to the urban exotic planting regime which is conducive to weed establishment and subsequent escape into adjacent natural areas. Unregulated garden waste

dumping has facilitated the transport and successful establishment of numerous invasive pest plants in vulnerable lowland fragmented natural areas in New Zealand.

It is therefore pertinent to develop capabilities for including the combined effects of climate change and land-use change in assessing future risk. This research intends to address this gap by developing a methodology for integrating the combined effects of land-use change and climate change with reference to selected environmental weeds at the regional landscape-level in New Zealand. Scenarios of change (to potential ranges of species) will be developed given various projections/pathways of change in both climate change and land-use change, based on known global-national realised distributions of species and various eco-physiological limiting factors. This information is intended to be useful for decision-making within our existing biosecurity system.

## Paul Peterson

Manaaki Whenua, Landcare Research  
petersonp@landcareresearch.co.nz

*Paul completed a Masters in Ecology and started working for Landcare Research in 1993. Since then he has been involved in insect rearing and phenology, biological control of weeds and pollination ecology.*

### **A comparison of vegetative impacts of biocontrol and chemical control methods for heather.**

The NZ Army currently sprays 3000l aerially per year of the herbicide 2,4-D ester active ingredient to control heather (*Calluna vulgaris*) on the Waiouru Military Training Area (pers comm. John Mangos). Heather is sprayed on a two-year rotation. The heather beetle was first released in January 1996 and is now established on the North Island Central Plateau. While heather beetle establishment is still very restricted, there is an opportunity to do experimental work to compare the effects of the herbicide with heather beetle deliberately released into experimental plots. In addition to comparing the effectiveness of these two methods on heather, the NZ Army is concerned about non-target impact of spraying 2,4-D ester and would like to quantify its impact. The heather beetle is unlikely to feed on anything but heather. Earlier herbicide trials done by Rodgers (1994) indicate that some native plants such as *Dracophyllum subulatum* (Monoao), *Coprosma cheesemaniae* and *Pentachondra pumila* may be adversely effected by 2,4-D ester.

## Susan Timmins

Department of Conservation, Te Papa Atawhai  
stimmins@doc.govt.nz

*Susan has worked as a weed ecologist for 20 years, for DOC and its predecessor. Her main area of research has been on the conservation impact of weeds and the dynamics of weed invasion. Susan has contributed to the development of systems for DOC for surveillance, monitoring and prioritising weed management work.*

### **Eradication-evaluating when to go for it!**

Weed eradication is often desired but rarely achieved—it's a big ask! Eradication requires the elimination of every single individual of a weed, with little likelihood of re-invasion. Eradication may be the best management strategy, but only if it is possible.

DOC has developed a decision tree to determine whether eradication should be considered for a particular weed infestation. It considers how widely cultivated the weed is, the probability of subsequent immigration, availability of suitable control methods, and the effort needed to eradicate the infestation. Various factors affect the amount of effort required to achieve eradication—logistic, detection, biological and control factors. Logistics covers the number and accessibility of infestations. Detectability refers to conspicuousness of the weed. Biological characteristics—such as vegetative reproduction capability and long-lived seeds—increase eradication effort. Similarly, eradication success can be impeded if control is expensive or if the weed may re-invade. Likelihood of success declines rapidly with increasing area of a weed infestation. Thus, to get an overall score for eradication effort, we combine the area of infestation with the factors that impede eradication. Whatever the eradication feasibility score, eradication may still require long-term commitment and so should not be embarked upon lightly.

## COMMUNITY SPEAKERS

### Stephen Hall

**Queen Elizabeth II National Trust**  
backcountry@value.net.nz

*Stephen is the Bay of Plenty regional representative for the QEII National Trust. Stephen currently helps manage around 150 covenants. On average there are about 15-20 new covenants per year.*

#### **Matua Saltmarsh: a successful community project under a QEII Covenant**

A Queen Elizabeth II National Trust Open Space Covenant is a legal agreement between the National Trust and a landowner to protect a special open space feature in perpetuity (or, occasionally, for a specified time) without jeopardising the rights of ownership.

To date, over 1,800 Open Space Covenants covering in excess of 64,000 hectares have been registered in New Zealand. These covenants protect a variety of open space, including forest and forest remnants, wetlands, lakes, peat lakes, coastline, tussock grasslands, tracts of rural landscape, archaeological sites, and geological formations.

Matua Saltmarsh is one such area. This talk will look at how this area came to be managed by a community advisory committee, the parties involved, the values of the Saltmarsh, the formation of the management plan, and what has been done on the ground, for example, revegetation planting, and animal and plant pest control.

### Jeff Hudson

**Manawahe Kokako Trust**  
jdhudson@xtra.co.nz

*Jeff spent 14 years as a possum trapper before joining the Department of Conservation as a researcher on forest rehabilitation and kokako recovery; this work led to his role as National Kokako Recovery Group Leader for three years before leaving the Department. Jeff now does the same work as a consultant, advising and implementing forest and species recovery.*

#### **The Manawahe Kokako Trust: a model of a successful community trust**

What are the elements that are required for a Trust to be formed? How is a Trust made up? What sort of expertise is required to allow everything to fall into place? How can achievable aims be generated that reward the Trust with results that engender long-term support from the community?

These issues and others will be discussed using the Manawahe Kokako Trust as a working example of what can be achieved.

### Bob Scopes

**Tarawera Ratepayers Rat Programme**

*Bob has had ties with Lake Tarawera since 1958 and has been a resident for 12 years. He has been connected to the Tarawera Lakes Protection Society for 10 years and been coordinating the Tarawera Ratepayers Rat Control Programme since it started in June 2000.*

#### **Tarawera Ratepayers Rat Programme – communities working with regional councils**

This talk gives an overview of the animal pest control project in the Lake Tarawera Settlement Area. The rat programme is a community project funded under the Environment Bay of Plenty Enhancement Fund and involves a group of local residents carrying out predominantly rat control using bait stations.



## **Dr Philip Simpson**

### **Project Crimson**

philip@goldenbay.net.nz

*Philip is the founding trustee of Project Crimson. His background is as a botanist with a plant anatomy PhD from the University of California. Philip now works as an ecological consultant (mainly botanical survey) after time with the Department of Conservation, Commission for the Environment and Marlborough Catchment Board. Philip is the author of "Dancing Leaves", a book about New Zealand's iconic cabbage trees, and is currently writing "The Ironhearted Trees: Pohutukawa and Rata" for Te Papa. Philip enjoys his vineyard and winery at Pohara that he runs with his wife Dr Wendy Parr.*

### **Project Crimson in Golden Bay**

Golden Bay was the launch place for the inclusion of rata in Project Crimson's work. This project needs motivated key individuals to coordinate it: the locals of Golden Bay enjoy a high level of environmental awareness and have a motivated community who want to enhance their valuable rata landscape. Many plants distributed to interest groups in this area each year, and Golden Bay also boasts Project Crimson's first rata trail, which was organised by a local committee.