

# NEW ZEALAND ECOLOGICAL SOCIETY CONFERENCE 2015

16-19 NOVEMBER 2015 UNIVERSITY OF CANTERBURY CHRISTCHURCH, NEW ZEALAND





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"Ascending the [lateral moraine], one of the most glorious views which I have ever beheld opened out beneath us. Across the wide Muller Glacier ... appeared a broad valley to the north, which half-a-mile higher up was closed by the terminal face of a large glacier .... [which] filled the deep valley between the snow covered ranges on both sides. At its termination the magnificent pyramid of Mount Cook rose to all its stern grandeur"

"I have not alluded to another feature of the flora of that region which still more beautifies the landscape, and that is the occurrence of a number of splendid herbaceous plants, of which some of the most conspicuous and beautiful flowers in New Zealand are produced. Everywhere in shady spots or moist localities a rich herbaceous vegetation is growing amongst which *Ranunculus Lyallii*, the king of the Ranunculacaeae with its large orbicular leaves and the fine leafed *Ligusticum* [*Anisotome*] *Haastii* are the most conspicuous."

"What gave still greater interest .... was the presence of large green alpine parrots (*Nestor notabilis*), the Kea of the Natives, which visited constantly the small groves of beech trees near our camp .... And were sometimes accompanied by two other species of Nestor, of which one was the common Kaka (*Nestor meridionalis*), whilst the other as to size, plumage, and habits, appeared to be intermediate to the two former species."

Julius von Haast April 1862

The very talented Jane Gosden painted the mountain scene on the front of the handbook which represents a scene not unlike that described by Julius Von Haast 150-odd years ago. Sadly, some of the other species Haast described are no longer present in Aoraki/Mt Cook National Park (weka, which were considered a great nuisance at that time, and whio) or are extinct nationally (a very large bird of prey – perhaps Eyles' harrier, and the New Zealand thrush, piopio).



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# **2015 NZES SCHEDULE**

#### SUNDAY, NOVEMBER 15, 2015

9:00 AM - 9:00 PM Student Day, registration opens at 8.30 AM

#### MONDAY, NOVEMBER 16, 2015

8:00 AM - 5:00 PM	Field trip: Banks Peninsula Conservation Trust
	Field trip: Arthurs Pass National Park
	Field trip: Hakatere Conservation Park and the O Tu Wharekai restoration project
9:00 AM - 4:00 PM	Workshop: NVS Express Training
9:00 AM - 5:00 PM	Workshop: Intro to R and Intro to R programming
11:00 AM - 5:00 PM	Field trip: Urban Christchurch
2:00 PM - 5:30 PM	Workshop: Introduction to the study of ecological networks
2:30 PM - 5:00 PM	Workshop: What makes a professional ecologist?
3:00 PM - 5:30 PM	Field trip: Local walkabout to Riccarton Bush and UC campus natural places
5:00 PM - 8:00 PM	Welcome reception & check-in at Bentleys, University of Canterbury

#### **TUESDAY, NOVEMBER 17, 2015**

7:30 AM - 8:30 AM	Check-in desk open in foyer of Central Lecture Theatre Building, University of Canterbury
8:30 AM - 8:45 AM	Welcome & formalities (all in C1 until session 1)
8:45 AM - 10:30 AM	Non-government conservation initiatives - Plenary symposium
8:45 AM	Andrea Byrom (Biological Heritage National Science Challenge / Landcare Research) - Introduction & Chairperson
8:50 AM	David Mules (Reconnecting Northland)
9:10 AM	Andy Lowe (Cape Kidnappers Sanctuary)
9:30 AM	David Miller (Banks Peninsula Conservation Trust)
9:50 AM	Maryann Ewers (Friends of Flora Conservation Group)
10:10 AM	Brenda Tahi (Tuhoe Tuawhenua Trust)
10:30 AM - 11:00 AM	Morning tea
11:00 AM - 12:30 PM	Non-government conservation initiatives - Plenary symposium
11:00 AM	Dianne Brunton (Massey University)
11:25 AM	Lou Sanson (Department of Conservation)
11:50 AM	Peter Karieva (The Nature Conservancy)
12:20 AM	Nicola Toki (Department of Conservation)
12:30 PM - 1:30 PM	Lunch

1:30 PM - 2:00 PM Plenary: Bruce Clarkson - Biological Heritage National Science Challenge overview in C1 (Introduction by Andrea Byrom)

SESSION 1	Symposium: Biological Heritage National Science Challenge	Animal ecology	Symposium: Ecology, impacts and management of invasive invertebrates and pathogens	Symposium: DNA approaches in ecology
Chairperson(s)	Grant Norbury	Deb Wilson	Beccy Ganley & Kevin Chase	Karen Adair
Room	C1	C2	С3	A2
2:00 PM	Thomas Buckley	Anthony Davidson	Keynote: Chris Green	Karen Adair
	Real Time Biological Heritage Assessment	Population dynamics of southern right whales ( <i>Eubalaena australis</i> ) in New Zealand waters	Protecting indigenous ecosystems from exotic invertebrates and pathogens	Impacts of global change above- and belowground
2:15 PM	Robert Holdaway	John Dowding	-	Catherine Febria
	A national framework for biological heritage assessment across natural and production landscapes	Post-release monitoring of New Zealand dotterels following the CV Rena oil spill		Microbial responses to changes in flow status in temporary headwater streams: a cross-system comparison
2:30 PM	Philip Hulme	Georgina Pickerell	Clare Veltman	Sarah Knight
	Caught in the net: characterising spatial networks to optimise biosecurity interventions	Braided-river bird nest survival: more evidence for an island-effect?	Parasites that change animal behaviour might help eradication projects: the case of <i>Toxoplasma gondii</i> in rodents	Fungal diversity during wine fermentation correlates with final thiol concentrations
2:45 PM	Amanda Black,	Kalinka Rexer-Huber	Max Suckling	Gavin Lear
	Melanie Mark Shadbolt, Phil Lyver, Nick Waipara & Phillip Wilcox Weaving Mātauranga Māori,	Ecology for management: the case of the most-caught seabird	Is New Zealand The Lucky Country?: The Fruit Flies are Circling	Revisiting Rapoport's Rule with microbial communities: The geographic range of bacterial taxa declines at lower latitudes
3:00 PM	Vision Mātauranga Policy and Māori researchers into the	Craig Eric Simpkins	Beccy Ganley	Jamie Wood
Biological Heritage National Science Challenge – successes, failures and everything in between	Assessing the reliability of landscape connectivity metrics using a virtual ecologist approach	Will myrtle rust devastate New Zealand's native Myrtaceae and how will this impact associated ecosystems?	Coprolites provide a window to the impacts of Pacific rats on New Zealand's prehistoric ecosystems	
3:15 PM		Eimear Egan	Kevin Chase	Robert Cruickshank
		Spatio-temporal life history characteristics of whitebait: evidence for putative populations?	Allee effects determine whether invasive species establish	Using morphological and molecular approaches to determine the diet of ground beetle candidates for translocation to Quail Island

3:30 PM - 4:00 PM

Afternoon tea

SESSION 2	Symposium: Biological Heritage National Science Challenge	Animal ecology & interactions	Environmental assessment & policy	Miscellaneous: Ecology
Chairperson	Bruce Clarkson	John Innes	Judith Roper-Lindsay	Fleur Maseyk
Room	C1	C2	C3	A2
4:00 PM	Tara Strand	Susan Walker	Marie Brown	Matthew Biddick
	Protecting New Zealand's primary sector from plant pests; a toolkit for the urban battlefield	Empty landscapes and biodiverse polka dots: scale, remoteness and the loss of New Zealand's endemic avifauna	The Nature of Progress: safeguarding biodiversity in development	On The Myth Of High Dioecism On Islands
4:15 PM	James Russell	Junichi Sugishita	Yanbin Deng	Rodrigo Ferreira
	Conservation Complexity: scaling vertebrate pest control	From sea to nest: Uncovering the links between foraging, provisioning and fisheries in Northern royal albatross	Preliminary Inventories of Naturally Uncommon Ecosystems in the Waikato Region for Biodiversity Management	Female penis and male vagina: sexual reversal in cave insects
4:30 PM	Phil Lester	Richard White	John Leathwick	William Godsoe
	The development of next-generation technologies for invertebrate pest management, with social wasps as a model species	Habitat loss reduces metapopulation resilience to global warming by reducing subpopulation carrying capacity, survival and connectance in mudfish metapopulations.	Landscape prioritisation of indigenous biodiversity to support regional council management	Evolution at species' range limits, when is it visible? When is it relevant?

4:45 PM	Travis Glare	Deb Wilson	Shona Myers	Vanita Malekar	
	Bio-Protection and the Challenge	An assessment of South Polar Skua numbers in the Ross Sea: predictions based on Adélie Penguin colony size	Criteria for assessing ecological significance in New Zealand	Cold fish in a warming world: evolution, natural selection, and thermal adaptation of the SCD gene in Antarctic fish	
5:00 PM	Jason Tylianakis	Jo Carpenter	Rowan Sprague	Marie-Caroline Lefort	
	Project 3.1: Predicting and managing ecosystem tipping points	Trends in kereru abundance and fleshy-fruited seed dispersal at Rai Valley 1983-2009	A classification system for landscape intensity, using Canterbury, New Zealand as a case study	Complex pest food-web interactions untangled using high-throughput DNA sequencing - the example of NZ and UK aphid webs	
5:15 PM	Andrea Byrom	Debra Wotton	Amy Whitehead	Martin Bader	
	Enhancing ecosystem resilience: a role for the New Zealand's Biological Heritage National Science Challenge	Lizard seed dispersal in New Zealand - does the evidence stack up?	Dealing with cumulative biodiversity impacts in strategic environmental assessment: a new frontier for conservation planning	Things aren't always linear - generalised additive modelling in ecology	
5-20 PM - 7-20 PM	Desta Descrition in Control Locator	The stars for an			
5:30 PM - 7:30 PM	Poster Reception in Central Lecture Theatres foyer				
7:30 PM - 9:00 PM	<b>Public talk: "Philanthropy and C</b> by Alison Ballance (Radio New Ze	<b>Conservation" (Devon McLean, NE</b> aland) with Devon McLean, Lou San	<b>EXT Foundation)</b> followed by panel son, Nicola Toki and Kevin Hackwe	discussion moderated II (C1)	

#### WEDNESDAY, NOVEMBER 18, 2015

8:30 AM	Science Media SAVVY Express Programme on offer throughout day until 5:30 PM						
8:30 AM - 8:45 AM	Formalities (C1)						
8:45 AM - 9:15 AM	Plenary: Kevin Parker - NZES E	Plenary: Kevin Parker - NZES Ecology in Action award winner (Introduction by Dianne Brunton)					
SESSION 3	Symposium: Our changing forests	Urban ecology	Symposium: Developments in national monitoring of New Zealand's natural environment	Symposium: Frontiers in ecological networks			
Chairperson	Cate MacInnis-Ng	Priscilla Wehi	lan Westbrook	Daniel Stouffer			
Room	C1	C2	C3	A2			
9:15 AM	Keynote: Steven Higgins	Myfanwy Emeny	Keynote: Liz MacPherson	Keynote: Serguei Saavedra			
	What are the major uncertainties for projecting future states of New Zealand forests?	The importance of indigenous biodiversity in providing cultural ecosystem services	Quality independent environmental reporting	Linking structure and dynamics in mutualistic networks: lessons from previous studies			

9:15 AM	Keynote: Steven Higgins	Myfanwy Emeny	Keynote: Liz MacPherson	Keynote: Serguei Saavedra
	What are the major uncertainties for projecting future states of New Zealand forests?	The importance of indigenous biodiversity in providing cultural ecosystem services	Quality independent environmental reporting	Linking structure and dynamics in mutualistic networks: lessons from previous studies
9:30 AM		Ellen Irwin	-	
		Dispersal of juvenile red-crowned parakeets (Cyanoramphus novaezelandiae) from a fenced mainland sanctuary		
9:45 AM	Robert Buitenwerf	Weihong Ji	Warren Gray	Angus McIntosh
	The future of New Zealand vegetation: insights from physiologically-based species distribution modelling	The effect of urban habitat heterogeneity on tui songs and singing behaviour	Dealing with data in national environmental reporting	Influences of connectivity constraints on the dynamics and conservation of freshwater ecological networks
10:00 AM	Daniel Laughlin	Helen Sharpe	Roger Uys	George Perry
	The adaptive value of traits along interacting gradients of soil fertility, temperature, and moisture	Greenways: the next big thing in urban ecology?	The challenges of national biodiversity reporting: Environment Aotearoa 2015 as a case study	Reconstructing networks lost: plant-bird interactions in NZ ecosystems
10:15 AM	Robert Holdaway		Andrew Gormley	Robert Poulin
	Disentangling the drivers of New Zealand's natural forest carbon sink		Constructing a reliable and trustworthy aggregated index of pressures on New Zealand's biodiversity	Phylogeny, geography and abundance as drivers of host- parasite interaction networks

10:30 AM - 11:00 AM Morning tea

SESSION 4	Symposium: Our changing forests	Invasion ecology & pest control	Symposium: Developments in national monitoring of New Zealand's natural environment	Symposium: Frontiers in ecological networks
Chairperson	George Perry	Mick Clout	Peter Bellingham	Jason Tylianakis
Room	C1	C2	C3	A2
11:00 AM	Bruce Burns	Jennifer Bufford	Jennifer Brown	Matthias Dehling
	Changes in forest composition and structure over 35 years in the Kauaeranga Valley, Coromandel	Impacts of novel pathogens: frequency and risk factors of pathogen spillover between non-native and native plants in New Zealand	Trends in Environmental Sampling	A framework to study species' functional roles
11:15 AM	Tim Curran	Fernando Cagua	Paul van Dam-Bates	K.C. Burns
	Resprouting by New Zealand plants following fire: an application of the buds, protection and resources framework to a fire-free flora	Informed reversal of ecosystem state	A master sample design framework for integrating biodiversity monitoring in New Zealand	A different approach to fruit- frugivore webs
11:30 AM	Bill Lee	Charlie Clark	lan Westbrooke	Camille Coux
	The Cenozoic history of New Zealand temperate rainforests: comparisons with southern Australia and South America	The rapid evolution of phenotypic plasticity in the introduced weed, <i>Arctotheca populifolia</i>	A model-based approach to estimating the effectiveness of management interventions on conservation land	Untangling the roles of neutral interactions and species interaction preferences in structuring plant-frugivorous networks along a gradient of relative abundances of native bird species from New Zealand
11:45 AM	Cate Macinnis-Ng	Cecilia Falla	Catriona MacLeod	Adam Canning
	Testing a climate change impact framework: A case study on drought in NZ forests	Ecological factors affecting the establishment of <i>Gargaphia</i> <i>decoris</i> (Tingidae: Heteroptera) on the invasive weed <i>Solanum</i> <i>mauritianum</i> (Solanaceae)	Refining environmental monitoring and reporting in production landscapes and beyond	The structural drivers of estuarine food web dynamic robustness
12:00 PM		James Griffiths	Philippa Crisp	lan Dickie
		Aerial application of herbicides for large scale <i>Salix cinerea</i> control and restoration of wetland plant communities	Greater Wellington's Tier 1 monitoring programme	Networks of mycorrhizal interactions in changing ecosystems
12:15 PM	Julia Kaplick	Jillian Heatherington	Discussion	Daniel Stouffer
	Comparative water-use and water relations of kauri forest trees	Deciphering the invasion pathway of <i>Lupinus arboreus</i> across the Kaitorete Spit dune system		Widespread evidence for higher- order competitive interactions in Western Australian wildflower communities

12:30 PM - 1:45 PM Lunch & AGM (starting 12:40 sharpin C2)

SESSION 5	Symposium: Conserving New Zealand's unique alpine biodiversity	Invasion ecology & pest control	Monitoring & ecological patterns	Symposium: Role of biodiversity in the provision of ecosystem services
Chairperson(s)	Colin O'Donnell	Clayson Howell	Bev Clarkson	Ecki Brockerhoff &
				Suzie Greenhalgh
Room	C1	C2	C3	A2
1:45 PM	Kerry Weston	Mandy Barron	Barbara Bollard Breen	Keynote: Suzie Greenhalgh
	The impacts of predators on alpine fauna: issues and knowledge gaps	Contrasting ship rat ( <i>Rattus rattus</i> ) population recovery in the presence and absence of a mast seed-fall event	The sky's the limit - the role of UAVs in ecological research	A framework for assessing the role of biodiversity in ecosystem services in NZ
2:00 PM	Ingrid Gruner	Jackie Spencer	Ivan Campos	_
	Impacts of Himalayan thar on snow tussock grasslands in the Southern Alps	The Cromwell Chafer Beetle Nature Reserve- An ecosystem under threat from redback spiders and rabbits	Listening to nature – A passive acoustic approach for monitoring protected areas and biodiversity assessment	

2:15 PM	Jennifer Christie	Stacey Bryan	Jennyffer Cruz	Shaun Awatere
	Invasive rodents, climate change and alpine ecosystems in New Zealand	Invasive redback spiders: investigating the feasibility of a biological control using female sex pheromones	Can we estimate population dynamics of feral cats and ferrets from spotlight counts including unknown identities?	Bicultural Methods for Biodiversity Measurement and Monitoring
2:30 PM	Dave Kelly	James Griffiths	Andrew Dopheide	Carla Gomez Creutzberg
	How resources affect mast seeding: theory, review, and implications for New Zealand	Predicting possum distribution and abundance, and measuring browse impacts at large spatial scales using remote sensed data	Analysis of the biodiversity of Hauturu (Little Barrier Island) using meta-barcoding and traditional methods	A knowledge landscape of land use effects on ecosystem service provision in New Zealand
2:45 PM	Bruce Robertson	Michael Jones	Laura Molles	Ecki Brockerhoff
	Population genetic structure of New Zealand alpine fauna: Implications for conservation	Predation as a limiting factor: A comparison of the effects of three predator control regimes on South Island robins ( <i>Petroica</i> <i>australis</i> ) in Dunedin, NZ	Individuality of Great Spotted Kiwi calls and implications for acoustic monitoring	Does biodiversity confer resistance to biological invasions?
3:00 PM	Jo Monks	Carolyn King	Jon Sullivan	Estelle Dominati
	Factors influencing survival of rock wrens in the alpine zone	History, geography and genetics interact to explain origins of house mice in New Zealand	Where are all the moths? A 45-year dataset reveals major changes in South Island moth diversity	Role of biodiversity in the resilience of farm systems
3:15 PM	Roger Pech	Marie-Caroline Lefort	Endah Sulistyawati	David Norton
	Personality traits mediate foraging by ship rats and house mouse in an alpine tussock ecosystem	Is one of the worst New Zealand pastoral pests on the verge of sympatric speciation?	Tropical forest vegetation along an altitudinal gradient in Mount Gede-Pangrango, Indonesia	Can we find 'win-win' outcomes for native biodiversity and sheep and beef farming?
3:30 PM - 4:00 PM	Afternoon tea			
SESSION 6	Symposium: Conserving New Zealand's unique alpine biodiversity	Invasion ecology & pest control	Native biodiversity in production landscapes	Symposium: Role of biodiversity in the provision of ecosystem services
Chairperson(s)	Kerry Weston	Tara Murray	Catriona MacLeod	Ecki Brockerhoff & Suzie Greenhalgh
Room	C1	C2	C3	A2
4:00 PM	<b>Des Smith</b> The ecology and behaviour of stoats in alpine New Zealand	Kirk Molony Using network connectivity to inform pest control management	<b>Geoff Ridley</b> Farming sustainably and resiliently in a divers landscape	<b>Richard Yao</b> Quantifying the economic benefits of ecosystem services and a way forward
4:15 PM	Warren Chinn	Elaine Murphy	Melanie Davidson	Fleur Maseyk
	The Oreads of Kā Tiritiri o Te Moana	Development of social lures for stoats and rats - defending pest- free areas	Building better biodiversity on cropping farms	How do riparian margins provide multiple ecosystem services in farming landscapes?
4:30 PM	<b>Laura Young</b> The state of alpine plant-animal mutualisms	Grant Norbury Density-impact functions for terrestrial vertebrate pests and indigenous biota: guidelines for conservation managers	Lisa Denmead Single- and multi-trait measures reveal widespread functional diversity loss in human-modified tropical landscapes	Discussion
4:45 PM	Andrew Digby	Stephen Pawson	Hannah Franklin	
	Takahe management in the Murchison Mountains: recent developments	Using Bayesian networks to predict the risk of forest insect flight activity	Native plants and nitrogen in agricultural landscapes of New Zealand	
5:00 PM	Mike Aviss	Nicole Schon	Wendy McWilliam	
	New Zealand's alpine nesting seabird, Hutton's shearwater: threats and conservation measures	Do exotic earthworms invade New Zealand native forests?	New Zealand farmer attitudes and behaviours regarding the restoration of woody vegetation on intensive pastoral dairy farms	
5:15 PM	Discussion	<b>Imogen Bassett</b> Assessing the potential of detector dogs for use in forest pathogen management: Paddy the kauri dieback dog	Jerry Nboyine Conserving a pest species: ground weta in Marlborough vineyards	
5:30 PM - 5:45 PM	Bus loading for transport from can	npus to dinner in Clvde Carpark		
6:00 PM - 11:45 PM	Conference dinner, Cardboard	Cathedral (sit down 6:45pm)		
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#### THURSDAY, NOVEMBER 19, 2015

8:30 AM - 8:45 AM	Formalities					
8:45 AM - 9:15 AM	Plenary: Melodie McGeoch - ESA Australian Ecology Research Award winner (Introduction by Chris Bycroft, NZES President)					
SESSION 7	Symposium: What's new in 1080 research since the 2011 PCE report?	Community and functional ecology	Symposium: Science in Society: citizen science, community engagement and socio-economic considerations	Symposium: The importance of epibiosis as driver of biodiversity and productivity in New Zealand ecosystems		
Chairperson	Penny Fisher	Debra Wotton	Jon Sullivan	Mads Thomsen		
Room	C1	C2	C3	A2		
9:15 AM	Charles Eason	Melissa Broussard	Ruud Kleinpaste	Mads Thomsen		
	A brief history of research and monitoring linked to the use of 1080 for pest animal management in New Zealand	The mechanisms of pollination: individual insects' role in transporting viable pollen	Cohort afer cohort	On the commonality of epibiosis and facilitation cascades		
9:30 AM	Dave Latham	Jieyun Wu	Monica Peters	Catherine Kirby		
	Refining aerial 1080 baiting for control of European rabbits in New Zealand	Aspect has a greater impact on soil bacterial community composition than elevation	Growing Citizen Science in New Zealand	A review of New Zealand terrestrial epiphyte research: critical gaps and opportunities		
9:45 AM	Kate Littin	Daniel Basubas	Myfanwy Emeny	David Schiel		
	Animal welfare impacts of 1080 poisoning: more than meets the eye?	Variation in flowering phenology in alpine environments in response to microclimate	The role of advocates in citizen science: lessons from the Great Kereru Count	Most species need another species: facilitation and community structure on southern New Zealand shores		
10:00 AM	Jo Pollard	James Brock	Karen James	Hannah Buckley		
	Current gaps in knowledge regarding aerial 1080 poisoning	Decoupling the light and nutrient requirements of the sporophyte and gametophyte stages of the New Zealand Cyathea	Combining citizen science and DNA barcoding to enable "a new kind of ecology"	Spatial patterns in epiphytic lichen diversity		
10:15 AM	Graeme Elliott	Olivia Burge	Caren Cooper	Paul South		
	Battle for our Birds: Large scale use of aerially applied 1080 to control rodents, stoats and possums during a widespread beech mast	Fragmentation, fire and the kereru: spatially explicit modelling in New Zealand's largest Ramsar wetland	Citizen Science: managing natural resources based on scientific discoveries that build social capital	Differential effects of native and invasive canopy-forming macroalgae modify epiphyte distribution on a southern rocky shore		

10:30 AM - 11:00 AM Morning tea

SESSION 8	Symposium: What's new in 1080 research since the 2011 PCE report?	Community and functional ecology	Symposium: Science in Society: citizen science, community engagement and socio-economic considerations	Symposium: The importance of epibiosis as driver of biodiversity and productivity in New Zealand ecosystems
Chairperson	Elaine Murphy	Duane Peltzer	Monica Peters	Hannah Buckley
Room	C1	C2	C3	A2
11:00 AM	Grant Morriss	Rebecca Bylsma	Peter Handford	David Orlovich
	Birds found dead after aerial 1080 baiting operations in New Zealand, 2003-14	Effects of the August 2012 eruption of Mt Tongariro on vegetation: a novel experiment to determine minimum surge temperature	Trap.nz - Harnessing new technology for citizen science	Microbial diversity in aerial "canopy" soils
11:15 AM	Asher Cook	lan Geary	Heidy Kikillus	Travis Foster
	Do forests fall silent following aerial applications of 1080? Monitoring bird conspicuousness with automated sound recording devices - methods & preliminary results	The paleoecology of the fossil plants and fungi of Beachlands, Auckland	Cat Tracker: an international citizen science project exploring the movement and management of cats	Molluscs as substrate for epibiotic species in an extended habitat cascade

11:30 AM	Robert Schadewinkel	Len Gilman	Colin Meurk	Amanda Taylor
	The effect of pest control using aerially applied 1080 poison on South Island robins ( <i>Petroica</i> <i>australis</i> )	Latitudinal gradients, productivity, species richness and microdisturbance	Three years of citizen science and biodiscovery with NatureWatch NZ	Radial distributions of arboreal plants in response to microclimate preferences
11:45 AM	Kim Roberts	Yutaka Kobayashi	Javiera Cisternas	Isis Metcalfe
	Monitoring forest birds through aerial 1080 drops in three regions and possible interactions with Nothofagus masting	Influence and mechanisms behind 40 years of change in post-fire successions, Waitakere Ranges, Auckland	Two examples of citizen science projects for monitoring native frog populations in collaboration with local communities	A host-specific epiphyte controls biodiversity across spatio-temporal scales in a facilitation cascade
12:00 PM	Hannah Edmonds	Chris Lusk	Tim Kelly	Alfonso Siciliano
	The response of short-tailed bats to the latest 1080 operation in the Eglinton Valley, Fiordland	Testing for functional convergence of temperate rainforest tree and shrub assemblages in New Zealand and Chile	Making ecology real in high schools: The Hurunui College experience	Cascading effects of epiphytism associated with co-occurring congeneric hosts
12:15 PM	John Innes	Mohd Hafiz Mohd		Tommaso Alestra
	Biodiversity outcomes from possum-focused pest control in New Zealand	Predicting the effects of biotic interactions on range limits of species		Succession and recovery of hosts and epiphytes following experimental disturbances to an intertidal assemblage
12:30 PM - 1:30 PM	Lunch			
SESSION 9	Restoration ecology	Community and functional ecology	Symposium: Science in Society: citizen science, community engagement and socio-economic considerations	Ecophysiology
Chairperson	Kevin Parker	Bruce Burns	Colin Meurk	Matthew Turnbull
Room	C1	C2	C3	A2
1:30 PM	David Norton	Jessica Reaburn	Stephen Hartley	David Hawke
	Tiromoana Bush restoration project	Development of interstitial plant communities in restored forest	The Great Kererū Count 2014 and 2015: making the most of presence-only records	Dispersal and availability of seabird-derived selenium in streams and terrestrial soil and plants on the West Coast, South Island
1:45 PM	Stéphane Boyer	Jon Terry	Priscilla Wehi	Sebastian Leuzinger
	Translocating ecosystems to restore opencast mines	Data deficient lichen geographical distribution in NZ	Biodiversity values reflected in reporting: birds and Māori bird names	Indirect CO <sub>2</sub> effects on plant productivity - a global view using experiments and a modelling approach
2:00 PM	Clayson Howell	Fiona Thomson	George Ledgard	Sridevi Ravi
	Wilding conifers and montane forest restoration	Do tall plant species invest more in dispersal than short species?	Private sector investment in Fiordland biodiversity conservation: Balancing biodiversity outcomes with investor interests	The role of non-structural carbohydrates in assessing plant physiolgical responses to drought
2:15 PM	Kate McAlpine	Barbara Anderson	Catriona MacLeod	
	Promoting native plant regeneration after <i>Pinus contorta</i> control	Going over to the dark side: microclimate and biotic interactions	Building trustworthy biodiversity indicators	
2:30 PM	Bev Clarkson		Mick Abbott	
	Restoring Sphagnum and restiad peatlands		A part of our nature: building social and economic value through ecological restoration	
2:45 PM - 3:15 PM	Afternoon tea			
3:15 PM - 3:30 PM	Plenary: Dacia Herbulock - sci	ience communication in C1 (Inti	roduction by Tim Curran)	
3:30 PM - 4:00 PM	Plenary: Jason Tylianakis - NZI	ES Te Tohu Taiao Award winner i	in C1 (Introduction by Angus McIn	tosh)
4:00 PM - 4:15 PM	Conference concludes (C1)			
4:15 PM - 5:45 PM	Workshop: Growing citizen science in New Zealand (C2)			
		Workshop. Growing citizen science in New Zealand (CZ)		

FRIDAY, NOVEMBER 20, 2015		
9:00 AM - 12:30 PM	Writers' retreat : Pre-seminars (open to all) in room 275 of Biology	
12:30 PM - 8:00 PM Writers' Retreat: Cass Field Station Day 1		
SATURDAY, NOVEMBER 21, 2015		
9:00 AM - 6:00 PM	Writers' retreat - Day 2	

#### SUNDAY, NOVEMBER 22, 2015



# **WELCOME LETTER FROM ORGANISERS**

Welcome to the rejuvenating garden city and the 2015 NZES conference – our 64th. It's been eight years since NZES was last at the University of Canterbury and we are delighted to have you back. We hope your time here is stimulating and enjoyable, both intellectually and socially. However, we have not left you much spare time for non conference-related activities as we have a busy and exciting programme lined up!

This year we have opted away from having a specific theme, as we wanted to encourage every aspect of ecology and related disciplines at NZES2015, although our logo and programme book cover painting, together with one of our symposia, celebrate our unique alpine ecosystems. The conference opens with a morning plenary symposium focusing on the role of non-government initiatives in conservation. A few of the many examples of these initiatives from around NZ are featured, ranging from small community conservation groups through to large philanthropic projects. Different perspectives (academic, governmental, international) exploring how well these initiatives are working are then presented. This discussion continues in the evening with a public talk by Devon McLean (NEXT Foundation) and a panel discussion hosted by Alison Ballance (Radio NZ) on the role of philanthropy, partnerships and non-government initiatives in conservation.

The excellent range of workshops and field trips on the first day provides the opportunity for people to meet and network before the conference proper. The field trips visit a range of ecosystems from greening the Christchurch red-zone to the ecology and conservation of the high Southern Alps. These are followed by a diverse mix of eleven symposia, many contributed sessions and, of course, a poster session, with a record 190+ individual presentations this year (excluding plenaries and posters). We are sorry to say that once again you'll have to make agonising choices about which talk you go to. The high demand for presentations has meant four concurrent sessions are required, as we have not wanted to turn anyone away. Science communication is fast becoming an important tool for ecologists and for the first time, we have the benefit of the Science Media Centre's SAVVY express programme on offer for ecologists to learn how to better communicate their research.

A particular emphasis at this year's conference is on sustainability. One of our plenary symposium speakers, Peter Kareiva from UCLA (USA), together with two international speakers from the Citizen Science symposium are "attending" the conference by video link. We also have a strong focus on recycling with our caterers having a strong commitment to this. We will be using reusable crockery rather than throw-away materials, while all unused food will be given to those in need. Free bike rental is available on campus through the university's student association (UCSA). We are also featuring local beverages, e.g. Three Boys Brewery is our craft beer on offer – founded by a former UC Biology staff member. We have even produced a Sustainability Plan for use at future NZES conferences.

NZES2015 would not have been possible without the tremendous support of our sponsors, the work of our local organising committee and our event manger, Kerry South (and her team) from South Events. The support from our four principal sponsors – the Biological Heritage National Science Challenge, Landcare Research, Living Water Fonterra-DOC Partnership and the University of Canterbury – together with our other wonderful sponsors (see following sponsors page) – has been invaluable to making NZES2015 possible.

What a wonderful opportunity to bring together the ecological community and learn from each other. We hope you have an excellent time at NZES2015!

#### David Norton and Laura Young

Conference co-conveners

# ACKNOWLEDGEMENTS

Without the hard work of many people, we would not be able to run a successful conference!

### Local organising committee

Co-convenor David Norton (University of Canterbury) Co-convenor Laura Young (University of Canterbury) Olivia Burge (University of Canterbury) Ximena Nelson (University of Canterbury) Dave Kelly (University of Canterbury) Karen Adair (University of Canterbury) Kim Roberts (University of Canterbury) Tim Curran (Lincoln University) Ecki Brockerhoff (Scion) Steve Pawson (Scion) Peter Bellingham (Landcare Research) Judith Roper-Lindsay (JR-L Consulting)

# We are also grateful to the following people for their contribution to different aspects of the conference:

**Field trip:** Laura Young, Alice Shanks, David Glenny, Nick Ledgard, Sally Widdowson, Colin Meurk, Shelly McMurtrie, Maree Burnett, Banks Peninsula Conservation Trust and landowners, Ecki Brockerhoff, Angus McIntosh, Melissa Hutchison, Renny Bishop.

**Workshop organisers**: Olivia Burge, Hannah Franklin, Judith Roper-Lindsay, Ian Boothroyd, Elise Arnst, Susan Wiser, Marilia Gaiarsa, Daniel Stouffer, Alyssa Cirtwill, Camille Coux, Giulio Dalla Riva, Monica Peters, Colin Meurk, Heidi Kikillus.

**Student Day organisers:** Hannah Franklin, Olivia Burge, Tim Curran, Kevin Chase, Rowan Sprague, Audrey Lustig, Ana-Johanna Sassu, Marine Aubert. Special thanks to the major sponsor of the student day: Faculty of Agriculture and Life Sciences, Lincoln University and the prize sponsors: Forest and Bird, Trees Please and New Zealand Geographic Society.

Writers' Retreat: Ronny Groenteman, Ellen Cieraad, Laura Young, Olivia Burge.

**Student volunteers:** Jessica Leach, David Packer, Jennifer Schori, Eduardo Burmeister, Malyon Bimler, Kevin Chase, Stephanie Galla, Joanna Carpenter, Carla Gomez, Eimear Egan.

**Design:** We can thank the very talented Jane Gosden for the kea painting on the conference logo and the mountain scene on the front of the handbook. Matt Walters designed an outstanding, yet simple and effective, conference logo.

Photo credits: Photos in this handbook taken by David Norton and Laura Young.

**Formalities**: We would like to acknowledge Puke Timoti from Tuhoe Tuawhenua Trust for the karakia at the conference opening and his participation in the closing. We thank Hamish Cochrane, Deputy Vice Chancellor (also an ecologist and past NZES member) for welcoming delegates to the NZES 2015 conference and the University of Canterbury.

THANKS ALSO TO ANYONE ELSE WE HAVE FORGOTTEN!

### Event Manager:



Kerry South, South Events kerry@southevents.co.nz +64 (0)21 024 77 554



# **PRESIDENT'S WELCOME**

On behalf of the New Zealand Ecological Society (NZES) I would like to welcome you all to the 64th NZES annual conference hosted by the University of Canterbury, Christchurch. It is the 14th time the conference has been held in either Christchurch or Lincoln. The New Zealand Ecological Society conference was last hosted at the University of Canterbury in 2007. Since this meeting, Christchurch and the surrounding parts of Canterbury have undergone a massive transformation following the earthquake sequence that began in 2010. Ecological science has and should continue to have an important role in the transformation of Christchurch and Canterbury region, while human needs are also hopefully addressed in a timely manner.

The society welcomes all delegates from first time attendees to those that have been involved with the society for decades. Some of the first time delegates are Kauri Seed Scholars, who have been selected from the undergraduate level of universities and other tertiary institutions throughout New Zealand. We also have a large number of postgraduate students presenting the results of their research, or attending one of our conference for this first time. I hope that many of the first time delegates (students and non-students) will enjoy the conference and be inspired to join and contribute to our society for many years into the future. We also have a number of experienced ecologists who continue to contribute to our ecological knowledge in retirement.

This welcome has been put together just over a month before the conference commences, but the programme looks to be a very exciting one of workshops, field trips, symposia, oral papers, poster sessions, and social events. An incredible amount of time is put into preparing a conference of this scale. Thanks to the organising team for bringing together what I am sure will be a great conference.

Our annual conference fulfils a key objective of our society in promoting the study of ecology and the application of ecological knowledge and all of its aspects. Our society also meets this objective in other ways: for examples please check out our journal (the New Zealand Journal of Ecology), newsletter, and website. This conference brings together a diversity of ecologists from students, educators, keen amateurs, researchers to those implementing the results of research in the community and governmental level. The NZES conference is often a celebration of the amazing biodiversity we have in New Zealand, but it is also about understanding how our natural and human induced ecological communities work, and the implementation of ecological science in decision making. I hope all conference delegates will be inspired by the conference programme, collaborate with existing and new groups of people, and come away with new ideas for research and the application of ecological science.

Chris Bycroft (President, New Zealand Ecological Society)

# NZES CONFERENCE SUPPORTERS

# New Zealand Ecological Society



This event is the annual conference of the New Zealand Ecological Society (NZES). The New Zealand Ecological Society was formed in 1951 to promote the study of ecology and the application of ecological knowledge in all its aspects. Through its activities, the society encourages ecological research, increases awareness and understanding of ecological principles, promotes sound ecological planning and management of the natural and human environment and promotes high standards both within the profession of ecology by those practicing it, and by those bodies employing ecologists.

# Thank you 2015 supporters!

The NZES and their conference would not be able to function without the generous financial and other support from a wide range of sponsors and supporters.





# New Zealand's Biological Heritage Science Challenge is a Proud Sponsor of the 2015 New Zealand Ecological Society Conference

New Zealanders value highly our biological heritage – the natural, production and urban environments in which we live, work and recreate. These environments underpin our economy through primary industries and tourism, are integral to our sense of national identity, and have important cultural and recreational significance.

However, elements of our environment are under increasing pressure. The New Zealand's Biological Heritage National Science Challenge will transform the way that we as New Zealanders respond to that pressure. The Challenge will protect and manage our native biodiversity, improve our biosecurity, and enhance ecosystem resilience to global threats and pressures.

#### THE CHALLENGE MISSION

"Reverse the decline of NZ's biological heritage through a national partnership to deliver a step change in research innovation, globally leading technologies and community and sector action."

Our Mission signals the intention to align the aspirations of stakeholders, the community, Māori, industry/ business, and the research community.

#### THE SCIENCE PROGRAMMES

#### Real-time biodiversity assessment

Creating solutions to enable biodiversity and biosecurity decision makers to have accurate, comprehensive information at their fingertips.

#### Reducing risks and threats

Reducing rates of incursion or establishment by foreign invader species; improving efficacy of pest management by scaling-up pest and weed management at landscape scales.

#### Sustaining resilient ecosystems

Enhancing and restoring the resilience of vulnerable ecosystems; preventing biodiversity loss, and mitigating the effects of global change.

#### SUBSCRIBE TO OUR NEWSLETTER

http://www.biologicalheritage.nz/news





#### CONTACT US

support@biologicalheritage.nz director@biologicalheritage.nz



Hosted by



# **IMPORTANT INFORMATION**



### Conference venue

The conference will be held at the University of Canterbury in Christchurch. The main venue is the Central Lecture Theatres Building (C block) located adjacent to the Puaka-James Hight library. Some presentations and activities will take place in the Biology, Erskine and the North Arts Lecture Theatres Building. The Welcome reception will take place at Bentleys (90 Ilam Road), also located on the University of Canterbury campus.

http://maps.canterbury.ac.nz/home/browse/1715?&z=17

### Emergency & event contact information

Emergency: Dial 111 (on campus phones dial ext. 6111)

Event Manager: Kerry South, South Events +64 (0)21 024 77 554

Event email: conference2015@newzealandecology.org

Medical: The Health Centre is located off the UCSA carpark (90 Ilam Road) off the UCSA Car park. Phone 03 364 2402 or on campus extension x6402.

### Parking

**Free car parking is available in the Clyde Car park** (also know as the Fine Arts Car park). Campus security will not check that car park for permits between November 16th- 20th. Since campus parking is limited we advise you to come early if arriving by car. The streets surrounding the University have limited car parking with some city council time limits. Should you choose to park closer to the venue on campus, please be aware that campus parking charges apply 8:00am-5:00pm Monday through Friday. Visitors may park in staff, student or visitor only parking areas by displaying an all-day parking coupon attached to the driver's window. An all-day parking coupon (usable only once) costs \$7.50 and can be purchased at Cafe 101 in the nearby Psychology/Sociology Building. Some short-term parking serviced by pay-and-display units may be available at a cost of \$2.50 per hour up to four hours.

http://www.canterbury.ac.nz/campus-services/parking/visitors.shtml

# Check-in desk

The check-in desk will be located at Bentleys during the welcome reception and in the foyer of the Central Lecture Theatres Building during the conference. Delegates are asked to check-in upon arrival. If assistance is not available at the desk, please direct your inquiry to an event manager or volunteer identified by a red t-shirt with conference logo. For off-site assistance phone the event manager. Messages and lost property can also be collected at the check-in desk. You can also see the checkin desk regarding luggage storage.

Check-in hours: 5-8pm Monday (Bentleys), 7:30am Tuesday & Wednesday, 8:00am Thursday (C-block)

# Social media policy

Similar to many other scientific societies, the New Zealand Ecological Society encourages open discussion on social media and other outlets at our annual conference. In order to find a balance between embracing social media and protecting authors' work, we set forth the following guidelines:

 Delegates are allowed to discuss all aspects of an oral or poster presentation at NZES2015 on social media (Twitter, Facebook, Instagram, etc.) in text form. This includes discussion of the background, questions, methods, results and conclusion. An example Tweet might be: "Jo Bloggs: kereru abundance has increased 40% on the Banks Peninsula since 2000". This DOES NOT include the right to photograph or video any parts of a talk with the intention of posting it on social media.

A presenter may decide to allow full coverage of their presentation on social media, including photos and video. The audience will be notified of this at the start of a talk either verbally or by use of the Twitter symbol on the title slide. For posters, this can be determined by asking the presenter or, if they are absent, when the Twitter symbol is displayed on the poster near the author's names. If this symbol is not present on a poster or slide and you do not have verbal permission from the presenter, please do not post photos to social media.

# Catering

2.

Teas and lunches will be provided in the foyer of the Central Lecture Theatres Building over all three conference days. Caterers have been provided with delegate dietary information from registration and every attempt has been made to meet all the dietary needs of delegates. Please let event managers know if you have any questions or need assistance. Fresh fruit will be available all day!

# Local dining

Visit findchch.com or download the Find:Chch app. Campus cafes are also available.

### Transport

The Christchurch Airport is located ~15min (7km) from the University of Canterbury.

Buses: #3 airport-University, (P) Purple line (city centre to University via Hagley Park/Riccarton Rd), #19 airportcity via centre/Fendalton. Other bus lines that run to or near the University include the Orbitor, Yellow Line (Riccarton Road), 120 (Burnside/Spreydon) & 130 (Hei Hei/Avondale).

Taxis: Corporate Cabs 03 379 5888; Blue Star 03 379 9799; Green Cabs Fast Direct 03 377 5555508 447 336; Gold Band Taxis 03 379 5795

Bike transport: **Thanks UC Student Association for providing 10 hire bikes for free to NZES attendees!** The cycles come with a helmet and lock but no lights. Bring your own lights to use overnight. Pickup available from UCSA (ground floor library building) 9am-5pm with conference name badge and ID.

Nextbike also offers short term rental bikes with five locations around the city. Register for \$4 on their website (30 minutes free with registration, \$4/hr or \$20/24hrs). Use your smartphone app or call to confirm pickup and dropoff points. Helmets and locks included.

### Internet access

Free guest Wifi access is provided. User code and password will be provided at the venue.

To connect to the UCvisitor network browse for wireless networks and connect to the one named UCvisitor. The UCvisitor network gateway webpage will load automatically. Follow the directions on the gateway webpage to login with your UC visitor guest usercode and password. You may be prompted with a security warning that it is an unencrypted network which you will need to acknowledge to continue connecting. Once connected you can open a web browser and load any webpage.

# Don't forget!

Valuables should not be left unattended at any time. Please turn off the sound on mobile devices during conference sessions. No recording of presentations is permitted. Name badges should be worn at all times. Be sure to pick yours up at the check-in along with your programme if ordered during registration.

# Venue policy

All visitors to the University of Canterbury must adhere to the University of Canterbury's health and safety policies posted on the University of Canterbury website. Delegates are asked to follow any instructions provided by the organisers so that the organising committee can ensure these policies are met. In the event of an earthquake or other emergency you will be advised on what to do. Please follow all directions.

# **PRESENTER INFORMATION**

# Social Media Policy

Please be aware of the social media policy posted under the general information section. Presenters are asked to consider these guidelines when preparing their talks or posters; that is, they accept that the content could be discussed on social media by members of the audience and that they can choose to allow video and photos of their presentation to be posted on social media. If no permission is given, social media discussions must be by text only; no photos or video are allowed. *Please tweet using #NZES2015!* 

# Talks

Presentations will be 12 minutes with 3 minutes question time (15 minutes in total). Each room will feature standard audio-visual equipment, data projector (format 4:3), lectern and computer. All talks must be uploaded on the day of presentation from a USB drive prior to the start of your session - no laptops please. If you have videos or animations in your presentation, please ensure you have embedded the files in your presentation and transfer the video files together with your presentation.

### Posters

Posters are to be A0 portrait format (841 x 1189mm) and will be displayed throughout the conference. There will be a dedicated poster reception on Tuesday November 17th 5.30-7.30pm, during which presenters are asked to be at their posters for questions. See full details under conference activities. Materials for hanging posters will be provided.

# Chairpersons

Thank you for your assistance. Please be in the room for the session you are chairing 10min prior to the start to ensure all presenters are in attendance. A volunteer is assigned to each session in case of any special needs. Audio visual support is also on call. Chair instructions will be available with your check-in packs and on the lecture room lecterns.



Nature Space is the free national portal for quality information on ecological restoration and management. Where people connect, share knowledge and guide the development of the site.

At Nature Space you can find:

- A resource centre with links to conservation information and tools
- A map of all groups registered on Nature Space with links to their self edited group pages
- How to register as a group on Nature Space
- How to sign up to the monthly email and bi-annual newsletters
- Forum coming soon, we are an interactive website
- 289 groups registered and growing

Contact us for more information at: <u>info@naturespace.org.nz</u>

# **CONFERENCE ACTIVITIES**

### Welcome reception @ Bentleys, University of Canterbury (90 Ilam Road)

### 5.00-8.00pm Monday 16th November

Enjoy a relaxing catch-up with friends and colleagues as delegates return from the day's field trips and workshops. Food and some beverages provided. Conference check-in will also be available. Live music by Jazz Gourmet.

### Poster reception @ Central Lecture Theatres Building foyer

### 5.30-7.30pm Tuesday 17th November

Poster presenters will be on hand next to their posters to discuss their findings with you during the two-hour period. There should be sufficient food available to tie you over to the public lecture which will be held immediately after the poster session - we encourage your attendance at this! To promote interaction over the posters, each participant will have two drinks tickets inside their name badge. When you have interacted satisfactorily with a poster presenter, ask them to put a stamp on your ticket. When you have 3 stamps, you are entitled to a free drink from the bar. Otherwise there will be a pay bar available. Poster presenters will be delivered a free drink. Nibbles will circulate throughout the event. The event is open free of charge to all registering for the conference, but accompanying persons need to book (and pay) separately (cost: \$25). If you have purchased an extra ticket, that ticket will also be inside your name badge.

# Public talk & panel discussion @ Central Lecture Theatres Building (C1)

### 7.30-9.00pm Tuesday 17th November

In the evening, Devon McLean from the NEXT Foundation, a major philanthropic conservation funder, will give a public lecture on the role of philanthropy and New Zealand conservation. This presentation is open to the public and is free. This presentation will be followed by a panel discussion moderated by Alison Ballance (Radio New Zealand) with Devon McLean, Lou Sanson, Nicola Toki and Kevin Hackwell exploring the role of non-governmental groups, partnerships & philanthropy in conservation. Our panel guests will provide a range of perspectives on the topic. Come along and prepare to ask questions! To report suspected exotic land, freshwater and marine pests, or exotic diseases in plants or animals, call:

# 0800 80 99 66

Ministry for Primary Industries Manatū Ahu Matua



## Conference dinner @ Cardboard Cathedral (234 Hereford Street)

#### 6.00pm - midnight Wednesday 18th November

This year's conference dinner is being held at the unique transitional Christchurch Cathedral, referred to locally as the "Cardboard Cathedral", designed by the internationally renowned architect Shigeru Ban and Christchurch architecture firm Warren and Mahoney. The A-frame cathedral stands 24 m high and comprises 96 cardboard tubes of 500 kg each sitting on eight shipping containers forming the walls. Our conference dinner is being provided by local Christchurch caterers Moveable Feasts who like to showcase the very best of Canterbury's cuisine using the freshest and finest ingredients possible in their menus. We will also be featuring local beer and wine as part of the dinner. The conference dinner is about way more than just the food and alcohol; we will have local Christchurch band Black Velvet providing us with great music to dance to. But before that we will be having the NZES awards ceremony where we present the society's premier 'Te Tohu Taiao' and 'Ecology in Action' awards. And this year, we are serving up a special guest speaker as part of the dinner menu! So come along to the conference dinner which is included in your registration fee (if you ticked yes) and have a great time!

### Details:

Pre-drinks start at 6.00pm with dinner from 6:45 pm. Free buses will provide transport from the University of Canterbury to the Cardboard Cathedral, departing straight after the last talks of the day. A return shuttle service will run between 10.00pm-midnight bringing delegates back to the University of Canterbury campus. Other stops on the way are possible by arrangement on the evening.

# **EARLY CAREER ACTIVITIES & AWARDS**

This year NZES is awarding five "Outstanding Student Presentation" awards (\$150 plus one year NZES membership) and two "Outstanding Student Poster" awards (\$100 plus one year NZES membership). To be eligible students had to submit a summary about their research prior to the conference. Assessment of presentations and posters will be weighted 50% on the summary and 50% on the presentation at the conference. The awards will be announced at the conference conclusion.

# Student Day@ Biology Building, Seminar room 275, University of Canterbury

#### 9.00am-late Sunday 15th November

### Major Sponsor: Lincoln University, Faculty of Agriculture and Life Sciences

The NZES 2015 student day is an opportunity to network with fellow students, gain valuable experience and share in enthusiasm for ecology. The day will include student presentations (12 and 5 min talks), a science communication workshop, career-focused panel discussions with ecologists from a range of organisations and an evening social mixer to complete the day.

### Major Sponsor:



### Prize Sponsors:









# Workshop: Encouraging the publication of ecological research

# 9.00am-12.30pm Friday 20th November

### Location:

A free series of short seminars open to all conference attendees will be held at the University of Canterbury prior to departure for Cass Field Station. These are open to all conference delegates even those not going to Cass. Topics will include clarity of writing, planning and structuring your paper and an overview of the publishing process as well as other useful tips.

# Writers' Retreat: Encouraging the publication of ecological research

### 1.00pm Friday 20th November - 4.00pm Sunday 22nd November

### Location: Cass Field Station

This retreat is geared towards early-career ecologists (but anyone is welcome). The aim is to foster the writing and publication of ecological research. Cass Field Station provides a quiet, reflective environment, in a mountain setting away from it all, that will give you an excellent opportunity to focus on developing your writing skills and completing that manuscript! It is amazing what a dedicated writing retreat with a group of people with a common goal can do to advance your chapter or manuscript.

*How to prepare:* You will need to have a chapter/manuscript ready to work on. The retreat is not a place to analyse your data, but is intended to be a focused time to write with the view to substantially progress a chapter or manuscript for publication. Of course we hope that some of the articles worked on during the retreat will be published in the New Zealand Journal of Ecology, but this is not a requirement. You will need to come prepared with a laptop and all the files and papers that you may need to assist you with the paper-writing process.

**Details:** Accommodation, transport and food are included in the registration fee of \$50. Attendees will be returned to either the airport or University of Canterbury by 4.00pm Sunday.

### WORKSHOPS

All workshops are free for conference attendees. Registered participants will receive pre-workshop notices that will include the workshop schedule, software requirements and guidance on what to bring. No catering will be provided in order to keep these free but breaks are scheduled and campus cafes are nearby.

### Intro to R and Intro to R programming

### 9am-5pm Monday 16th November

#### Location: Erskine Building Rm. 248

The R for ecologists workshop will teach you how to get started and beyond with the statistical software R. The workshop starts with a gentle introduction to R, and an overview of the similarities and differences with Excel, followed by key components of a basic workflow. Thereafter sessions gradually increase in complexity, covering data manipulation, statistical modeling, data polishing and model visualisation. The workshop will combine teaching, class and individual exercises. Exercises and examples will use ecologically relevant data. **Organisers:** Olivia Burge (University of Canterbury) & Hannah Franklin (Lincoln University)

# Introduction to the study of ecological networks

#### 2.00-5.30pm Monday 16th November

#### Location: Erskine Building Rm. 010 Crypt 2

Ecological networks (including food webs and plantpollinator, host-parasite, and plant-frugivore networks) provide a useful framework for addressing a wide variety of research questions. In this workshop, we will provide a brief introduction to types of ecological networks and some of the uses to which they have been put, and then walk through several R packages that are commonly used when working with networks. By the end of the workshop, participants will be able to read a network into R, calculate summary statistics of network structure (e.g., connectance, nestedness, degree distribution), and interpret the biological meaning of these statistics. Prior experience with R is highly recommended and we encourage participants to bring their own laptops. Organisers: Marilia Gaiarsa, Daniel B. Stouffer, Alyssa Cirtwill, Camille Coux & Giulio Dalla Riva (University of Canterbury)

### What makes a professional ecologist?

### 2.30-5pm Monday 16th November Location: Biology Rm. 275

Being paid to be an ecologist makes it a profession, whether the ecologist works in a university, research institute, government or private company. Yet few ecologists in New Zealand are members of a professional body or institute, or recognise a code of professional practice and ethics. Many ecologists work for themselves and don't have opportunities to discuss matters such as projects, environmental legislation, professional practice, ethics, training or new ecological science, with other ecologists; ecologists in larger organisations are often required to have a suitable professional certification. The recently-released guidelines for ecological impact assessment provide a tool that can assist in raising the professional standards of professional ecologists. This workshop will allow ecologists to talk about the things that will help them to undertake their work better or with greater endorsement and recognition, and to contribute to improved practice, planning and management within the profession. Discussion will include use of the guidelines as well as what a suitable professional body might be expected to provide to the profession and practice of ecology.

**Organisers:** Judith Roper-Lindsay (JR-L Consulting Ltd), Ian Boothroyd (Boffa Miskell Ltd)

### NVS Express Training Workshop

### 9am-4pm Monday 16th November

### Location: Biology Rm. 223/225

The National Vegetation Survey databank (NVS) is a physical archive and computer databank containing records from approximately 98,000 vegetation survey plots. Landcare Research has developed a freely available software package called 'NVS Express' which is specifically designed for the purpose of entering and analysing permanent plot and Recce data that has been collected using standard methodology (as per Hurst & Allen 2007). NVS Express provides an easy way to enter, validate and analyse these data. An electronic copy of the data can be archived in the NVS databank as part of this process. This workshop will acquaint participants with the 'NVS Express' software.

Organisers: Elise Arnst, Susan Wiser (Landcare Research)

# Growing citizen science in New Zealand

### 4.30pm-6pm Thursday 19th November Location: C2 Central Lecuture Theatres

Citizen science is gaining momentum in New Zealand, yet leadership and strategic direction are lacking let alone knowledge of which types of projects are underway nationally. This 90-minute workshop will provide an opportunity to understand the current state of play for citizen science and to discuss themes from symposium presentations (e.g., data validity), as well as scope possible solutions. We will be using a World Café-style format to encourage open discussion among diverse participants in small, moderated groups. The workshop will provide a leadin for a new 3-year citizen science project coordinated by the NZ Landcare Trust (to be launched late 2015). Organisers: Monica Peters (University of Waikato), Colin Meurk (Landcare Research) & Heidi Kikillus (Victoria University of Wellington)

### FIELD TRIPS NZES 2015

All field trips will occur on Monday November 16th departing from and returning to the University of Canterbury (Clyde Rd. Car park) in time for the Welcome Reception. Registered participants will receive pre-trip notices that will include guidance on what to bring. No catering will be provided in order to keep the trips low cost, so please bring (or buy) your own lunch. Opportunities to stop and buy lunch along the way will also be incorporated into all field trips. Please park in the Arts carpark to avoid being clamped.

### Hakatere Conservation Park and the O Tu Wharekai restoration project

#### 8.00am-5.00pm (\$25)

An introduction to high country farming and conservation issues, the future for rare plants and rare ecosystems within seral vegetation communities, monitoring of tussock grasslands and wetlands, production, recreation and conservation management on a large scale, community conservation trapping, planting and wilding pine control in the area.

Organiser: Alice Shanks

# Arthurs Pass National Park

#### 8.00am-5.00pm (\$25)

Visit some excellent sub-alpine vegetation and fauna (e.g. kea, rock wren, alpine grasshoppers, forest birds). Walk the stunning Otira Valley (grade: easy), and for the fit, climb up to the Philistine Bluffs. Visit mountain beech forest with mistletoes and pristine rivers (Bealey Valley) and stop off at Craigieburn along the way to learn about the issues on wilding conifers in the area and what is being done to address the problems. Wet weather alternative – diverse alpine vegetation, mountain screes at Broken River/Craigieburn mountains.

Organisers: David Glenny, Sally Widdowson, Nick Ledgard



# Urban Christchurch

### 11.00am-5.00pm (\$20)

Urban reserves, future greening plans for the red zone, earthquake impacts on aquatic ecosystems and their rehabilitation. Visits sites within and around the city with native biodiversity values, looking at existing areas, river enhancements, the potential for "greening" new areas, (e.g. within the red zone) and the effects of the earthquakes on these values (e.g. in aquatic systems). Learn about future plans for Christchurch city (e.g. developing green corridors throughout the city, taking advantage of red zone land, learn about some of the tensions between government and conservation groups).

Organisers: Colin Meurk, Shelley McMurtrie

# Banks Peninsula Conservation Trust community-driven biodiversity work

### 8am-5pm (\$25)

This field trip will explore 3 privately-owned ecologically significant sites that are legally protected by Banks Peninsula Conservation Trust covenants, as well as provide an opportunity to find out more about this community led conservation organisation and what can be achieved on a regional scale. These sites will illustrate some of the huge diversity of ecosystem types on Banks Peninsula and have many rare species of plants, insects and lizards.

Organisers: BPCT and partners

# Local walkabout to Riccarton Bush and UC campus natural places

### 3pm - 5.30pm (free)

#### \*MEET AT CENTRAL LECTURE THEATRE BUILDING\*

For those arriving halfway through the day and wanting to see some local Christchurch natural sites, come and join us for an afternoon walkabout! Meet at the University of Canterbury's Ilam campus and from there we will walk to Riccarton Bush – the oldest urban reserve in NZ and the only remnant of original podocarp forest on the Canterbury Plains. On the way, we will stop off at some of the interesting areas around campus such as the restoration work at Okeover Stream and perhaps even the historic Ilam gardens and homestead. **Organisers:** Eckehard Brockerhoff, Jon Sullivan, Angus

McIntosh



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# **ENVIRONMENTAL STRATEGY & ACTION PLAN**

The 2015 Local Organising Committee and NZES Council have agreed to use the 2015 event as a starting point for identifying how the Society can strengthen its environmental responsibility in relation to events. A "Strategy and Action Plan" for the 2015 Conference sets out some broad considerations around environmentally responsible events, documents specific actions for NZES2015 and forms a base for future NZES efforts around environmentally responsible events. This year's efforts just to name a few include:

- Gaining input from NZES members on what "greening" efforts they would like to see applied towards the annual conference and how these should be resourced.
- Minimising the event footprint by limiting event takeaways, offering digital only handbook options and relying on electronic event communications.
- Offering a carbon-offset option during registration that benefits a local carbon fixing project.
- · Recording baseline data in order to track efforts and make improvements to future events.
- Using local providers and products wherever possible.

### Want a say? We want to hear from you!

Your feedback will be used to shape sustainability initiatives at future conferences. Complete the short online survey during this conference – the link will be open throughout the week. See check-in desk or session-organisers for details.

### Carbon offset project:

Money raised from the carbon offset fees during registration will go to **The Green Effect Trust** (www. treesforcanterbury.org.nz). It has three aims: **EMPLOY**, **EDUCATE**, **REGENERATE**. These aims are carried out by its operating arm, Trees for Canterbury. The project carries out community plantings at various sites in the Canterbury region. We ask that you support our planting held at Otukaikino River Reserve. All donations will be put to growing and planting extra plants for this very important and award winning project.

The Reserve known for its reputation as an excellent recreation area is undergoing some major changes. This includes the restoration of native habitat in the area to improve ecological values that play an integral role in current recreation planning for future generations. This project will provide wildlife corridors to protect and restore waterway plants and animals, wetlands and natural heritage values, and includes links to ponds, lakes and the Waimakariri River. This will be an ongoing partnership between the community, Trees for Canterbury and the Christchurch City Council.

All your support will go to the August 29 planting in 2016. Check out their carbon calculators to "fix" your next conference carbon dioxide emissions!

# **PLENARY SYMPOSIUM SPEAKERS**

### **Dianne Brunton**



Dr Dianne Brunton grew up in Auckland and studied at University of Auckland before going overseas to complete a PhD at the University of Michigan in the US. Dianne is recognised for her research in behavioural ecology and bioacoustics with publications in high profile journals such as Behavioral Ecology,

Evolution, and Ecology Letters. Dianne is the recipient of a number of competitive research grants, including two Marsden Grants, a Fulbright Award, and funding from the Australia Pacific Science Foundation. In 2005, Dianne moved from University of Auckland to Massey University, Auckland, to establish the postgraduate Ecology Group. Her postgraduate students have worked on a wide diversity of behaviour and conservation projects in New Zealand and around the world including cultural evolution of song dialects in bellbirds and saddleback, behaviour and genetics of Chilean endangered frogs, and climate change impacts on snow leopards in Nepal.

### Andrea Byrom



Andrea completed an honours degree at the University of Otago on the genetics of freshwater copepods before moving to Canada and completing a PhD at the University of British Columbia, where she investigated the ecology of Arctic ground squirrels. After she moved back to New Zealand in the late 90s,

she completed a postdoc on the ecology of ferrets in braided riverbed ecosystems. Andrea was then employed as an ecologist by Landcare Research, becoming increasingly interested in the ecology of multiple invasive species and their interactive effects on native flora and fauna in tandem with other drivers of global change such as climate and land use change. Prior to taking up her role as Director of the NZ's Biological Heritage National Science Challenge, Andrea managed Landcare Research's invasive weeds, pests and diseases research portfolio, a role she held for three years. Andrea also co-leads a research theme in the Invasive Animals Cooperative Research Centre in Australia and is an associate investigator in the Te Pūnaha Matatini Centre of Research Excellence (University of Auckland).



### Maryann Ewers



Maryann, along with her partner, Bill Rooke, were owner/operators of a conservation based guided walks business in Kahurangi National Park for 21 years (1993 to 2014), with the emphasis on educating the public on New Zealand's unique biota, and the issues we are facing. Being immersed in the parks biodiversity,

they watched the continual degradation of the birdlife over time. On every trip into the bush, they made a bird list of species seen and heard. After the last great beech mast of 1999/2000, they observed a dramatic decline in, not just bird numbers, but species missing from areas where they had been before. They realised something had to be done to try and save what was left. With DOC not doing any biodiversity work in the Flora Catchment area of Kahurangi, apart from a little possum control for *Powelliphanta* snail protection, and being informed DOC didn't have the resources to do anything further, they founded the community trapping group, Friends of Flora Inc (FoF). FoF has grown to be one of the oldest and largest community trapping projects in the country – covering an area > 8,000 hectares.

### Peter Kareiva



### (Director of the Institute of the Environment and Sustainability, UCLA, USA)

Peter Kareiva is the director of the Institute of the Environment and Sustainability at UCLA. Before coming to UCLA, Peter was the Chief Scientist and Vice President of The Nature

Conservancy, where he was responsible for maintaining the quality of over 600 staff engaged in conservation science in 36 countries around the world. He is also the acting director of Science for Nature and People (SNAP), a new scientific collaboration among The Nature Conservancy, the Wildlife Conservation Society and the National Center for Ecological Analysis and Synthesis that is designed to rapidly respond to critical questions involving nature and human well-being. Peter studied political science and zoology at Duke University for his bachelor's degree and ecology and applied mathematics at Cornell University for his Ph.D. He is the author of more than 150 scientific publications and author or editor of eight books, including a textbook on conservation science. Peter is a Fellow of the American Academy of Arts and Sciences and a member of The National Academy of Sciences. Prior to joining The Nature Conservancy, Peter was the Director of Conservation Biology at the NOAA Northwest Fisheries Science Center, and prior to that he was a Professor at the University of Washington and Brown University, with teaching or faculty stints at Stanford University, University of Virginia, Uppsala University, and Oxford University. His current research concerns the connection between human activities and changes in ecosystem services, as part of the Natural Capital Project, which he co-founded with Gretchen Daily, Steve Polasky, and Taylor Ricketts. Peter is also studying the linkage between the sustainability initiatives of global corporations and their impacts on ecosystems, as well as their own corporate performance; the environmental impact and value of aquaculture for food production; and the value of nature for people in urban areas.

### Andy Lowe



Andy Lowe is a Director of Lowe Corporation Limited, a family owned business that processes hides, pelts and rendering material. As well as owning tannery, trucking and rendering businesses throughout New Zealand, the company is also involved in farming, property development and investment.

Andy's passion for the outdoors and conservation, together with his innovation, determination and vision honed in the meat and by-products industry led him to become a developer of special character landscapes, not only that enhanced the environment but also enabled people to live their lives within that environment. Andy has been the initiator and vision keeper behind the establishment of Cape Sanctuary - 2,500 ha of land on the Cape Kidnappers Peninsula protected by a 10km long vermin proof fence. This is the largest privately owned/ funded mainland wildlife preserve in New Zealand and is now home to the widest variety of native bird species living on mainland coastal New Zealand, co-existing with recreation, beef, sheep, cropping and forestry. The vision for Cape Sanctuary looks out beyond 50 years to restore the coastal communities of land and sea birds. reptiles and invertebrates that would once have existed on the peninsula and to create an environment where endangered species co-exist with human habitation, food production and recreation. Andy's other conservation projects include:

• A trustee of the Hollyford Conservation Trust. As an original Trust member he has been part of a team that is organising for 20,000 ha of Fiordland to be under vermin control. Andy is co-owner of a property in the Hollyford Valley, Fiordland.

• Foundation settlor of the Maraetotara Tree Trust which was set up to fence and plant the entire length of the Maraetotara river in conjunction with the land owners.

• On the Governance Board of Cape to City. Cape to City is a new project with \$6 million funding. The proposed treatment area is about 26,000 ha.

### Devon McLean



Devon received his professional training in forestry at Canterbury University and a Master's degree in science from the University of California at Berkeley. During a 31 year career in the NZ forest industry he was responsible for a range of planning and management roles which included ten years as Chief Operating Officer

at Carter Holt Harvey (CHH). Associated roles included Chairing the New Zealand Forest Industries Council for five years, two years as a Director the National Association of Forest Industries of Australia and seven years as a Director of the NZ Forest Research Institute now Scion.

During his time at CHH Devon was involved in the formation of Project Crimson and has remained a trustee for the last 25 years. In 2005 he retired from CHH to pursue private interests and became involved in the restoration of Rotoroa Island in the Hauraki Gulf. This lead to three of his current roles as Director of Project Janszoon the privately funded ecological restoration of the Abel Tasman National Park, as Chairman of Zero Invasive Predators (ZIP) and as an adviser to the philanthropic NEXT Foundation.

In 2014 Devon was appointed to the NZ Conservation Authority and to the Governance Board of the Biological Heritage National Science Challenge. He has also chaired Predator Free NZ since early 2015.

Devon was awarded a QSM for services to the environment in the 2015 New Year Honours list.

### David Miller



David is a Trustee of the Banks Peninsula Conservation Trust (BPCT)a community driven conservation trust which is the only nongovernmental organisation in New Zealand with covenanting powers, currently protecting in perpetuity approximately 1000ha of biodiversity on Banks Peninsula. After a career

in mental health and sexually transmitted diseases in England, and public health and organisational governance globally in the World Health Organisation, David and his wife, Carole moved to their farm in Decanter Bay in 2008. He has been particularly interested in supporting the sustainable development of BPCT in collaboration with regional and local partners, and assisting with strategic evolution of the Trust. David is a Doctor of Public Health Medicine and Epidemiology and a registered Clinical Psychologist.



### David Mules



David is employed by WWF-New Zealand which, in partnership with NZ Landcare Trust, is leading the design and implementation of a bold and ground-breaking ecological restoration programme in Te Tai Tokerau, called Reconnecting Northland. As Programme Manager, David is involved with helping inspire

and support the wide diversity of communities, iwi/hapu, agencies and landholders throughout the north who are making a real difference by working collaboratively and at scale within the shared vision of Reconnecting Northland: Whenua ora, wai ora, tangata ora - our land and our people flourishing together.

David finds that his broad work experience and skill base is highly relevant to the exciting challenges of this holistic, innovative and potentially transformational programme. After starting in a career as a civil engineer, David then worked as a teacher and principal in several rural schools around the country, including in his home district of Hokianga. Early interests working in conservation on Rakiura were then rekindled within community relations roles with the Department of Conservation in Coastal Otago and Bay of Islands, before the 'mother of all jobs' came along with the genesis of Reconnecting Northland.



### Lou Sanson



Lou Sanson was appointed as Director-General of the Department of Conservation in September 2013, after 11 years as Chief Executive of Antarctica New Zealand - responsible for developing, managing, and executing New Zealand's activities in Antarctica and the Southern Ocean.

The Department of Conservation is responsible for managing 8.5 million ha of public land (approximately 30% of New Zealand's landmass) and 34 marine reserves.

DOC manages over 14,000km of tracks and 970 huts. These places are used by 48% of New Zealanders (approximately 1.6 million people) and approximately 30% of overseas visitors (and many more view the iconic scenery from a distance).

During his time at Antarctica New Zealand Lou has overseen the deepest ever multi-national sedimentary science drilling project in Antarctica (ANDRILL) and he led the development of Antarctica's largest wind turbine project focussing on reducing fossil fuels at McMurdo Station and Scott Base.

Prior to this Lou was Conservator for Southland Conservancy in charge of Fiordland National Park and Stewart Island.

He also led the establishment of Rakiura National Park, the sub-Antarctic World Heritage Area and one of the world's largest island eradication projects and helped establish a network of marine reserves in Fiordland and Stewart Island.

### Brenda Tahi



Brenda Tahi is the Executive Trustee for the Tuhoe Tuawhenua Trust which is responsible for 9000 ha of privately-owned indigenous forest in Ruatahuna, lying at the heart of Te Urewera. The trust is planning the next 100 years for the land, forests and people of its region and has twin goals of the restoring and preserving

its forest ecosystems whilst making good use of its natural resources for the benefit and enjoyment of the people of the land.

Brenda is Ngati Porou but has spent much of her life as part of Tuhoe at Ruatahuna. She has an MBA from Henley College, and a social science degree from Waikato. Brenda has had a career in the public service as a policy advisor and senior manager, then as a consultant and in governance in public and private sectors. Brenda now leads the activities of the Tuhoe Tuawhenua Trust, including its main commercial development Manawa Honey NZ. Brenda has led research for Waitangi Tribunal claims for the Ruatahuna region and for socio-economic revitalisation of Maori communities. She has also contributed to research in podocarp forest restoration, kereru population monitoring and matauranga, and Maori tourism.

# Nicola Toki



Nicola Toki is the Threatened Species Ambassador for the Department of Conservation, a role that strives to raise awareness, engagement and action on issues relating to New Zealand's threatened native plants and animals. The role of Threatened Species Ambassador straddles science and communication

and is supported by Air New Zealand, as part of their partnership with DOC.

Nicola studied Zoology and Law at the University of Otago, and is a self-confessed "Nature Nerd", who has worked for the conservation of our native wildlife for over ten years. She has worked for the Department of Conservation, Forest & Bird, TBfree New Zealand and most recently managed the Living Water partnership for DOC and Fonterra in the South Island. From 2007-2010 she researched, wrote and presented over 200 episodes of "Meet the Locals", a TVNZ series of mini wildlife documentaries on New Zealand's amazing nature. Nicola has also written two kid's books on NZ ecology.

# OTHER PLENARY SPEAKERS

### Bruce Clarkson



Bruce is currently Deputy Vice Chancellor Research at the University of Waikato. He has authored some 90 publications on various aspects of the systematics, ecology and restoration of New Zealand native plants and vegetation. Throughout his career he has applied his research, often working alongside

community groups, to assist in the protection and restoration of native plants and ecosystems. In 2005, together with Dr Wren Green, he carried out a review of progress on the New Zealand Biodiversity Strategy, and in 2006 he was awarded the Loder Cup, New Zealand's premier conservation award. From 2005 to 2012 he led a government-funded research programme considering the best methods to restore indigenous biodiversity in cities. He was seconded from the University of Waikato as Interim Director of New Zealand's Biological Heritage National Science Challenge during 2014 to lead the initial set phase of the Challenge.

### Dacia Herbulock



Dacia Herbulock is a Senior Media Advisor at the Science Media Centre and has been a core member since its launch in 2008. She came to the SMC with a background in radio, film, television and science writing, most recently at Radio New Zealand, where she was Science and environment features producer and

presenter of Our Changing World. She has a life-long passion for science and loves the challenge of bringing its hard-won discoveries to life for a wider audience. Dacia will also be leading the Science Media SAVVY offering on Wednesday November 18th.

# NZES & ESA 2014 AWARD WINNERS

Jason Tylianakis (2014 NZES Te Tohu Taiao Award winner)

This award is presented annually to recognise individuals who have made an outstanding contribution to the study and application of ecological science. The award is made to the person(s) who have published the best original research regarding the ecology of New Zealand, or to the person(s) who have made a sustained and outstanding contribution to applied ecology, particularly conservation and management.

Jason is a professor in ecology and Rutherford



Discovery Fellow at the University of Canterbury, New Zealand, and a part-time Chair in Ecology and Biodiversity at Imperial College London at Silwood Park, UK. He did his undergraduate at Massey, MSc at Canterbury, and PhD in Goettingen, Germany. His research examines how communities of interacting species respond to environmental changes.

In particular, he is interested in how the architecture of interaction networks (such as food webs or pollination networks) comes to exist, and how it responds to environmental drivers. He is also interested in the conditions under which biodiversity loss has the greatest impact on ecosystem functioning and services, and in searching for win-win scenarios to balance agricultural production and conservation. He and his talented international lab group address these and other questions in pure and applied ecology using a variety of systems (plants, insect herbivores, parasitoid-host systems, microbes) and approaches (field observations, field and lab experiments, meta-analyses, modeling).



### Kevin Parker (2014 NZES Ecology in Action Award winner)

The Ecology in Action award reflects one of the primary aims of the society: the promotion of the study of ecology and the application of ecological knowledge in all its aspects. This award recognises individuals who have made outstanding contributions to the promotion of ecology, including communication, education and transfer of ecological science at the grass roots in NZ or the Pacific. The Society would like to recognise such individuals' achievements in promoting ecology and education, with landowners, community groups, politicians, councils and others. The society recognises the important role of the transfer of ecological knowledge in changing behaviours and achieving practical protection and restoration of biodiversity.



Kevin is a field biologist with expertise in reintroduction biology, conservation biology and restoration ecology. He completed an undergraduate at Lincoln University, an MSc at the University of Auckland and a PhD and postdoctoral work at Massey University. He is a former park ranger and

zoo keeper and currently splits his time between Parker Conservation, a small family based consulting company, and a Marsden Fast Start project funded by the Royal Society of New Zealand. Kevin has a particular interest in the theory and practice of reintroduction biology. He has been directly involved in 45 translocations, more than half of which he led, and he provides ongoing advice to local and international NGOs and governmental groups on translocations, restoration and threatened species management. He has published extensively on reintroduction biology, including papers in Ecology Letters and Evolution and book chapters on the more practical aspects of carrying out translocations. There are several species he has yet to translocate but very much wants to. However, his abiding goal in life is for translocation to become unnecessary in Aotearoa New Zealand.

### Melodie McGeogh (2014 Australian Ecology Research Award winner)

A recent initiative between NZES and ESA has been to find ways to increase our trans-Tasman linkages. One of these initiatives has been to establish a reciprocal plenary at our respective annual conferences by the premiere award winners from both societies (Te Tohu Taiao award – NZES, and the Australian Ecology Research Award (AERA) – ESA). The AERA recognises excellence in research in Australian ecology, for a specific body of recent work by a mid-career researcher, and a lecture is delivered annually as a Plenary at the conference of the Ecological Society of Australia.



Melodie McGeoch is interested in integrating spatial ecology with understanding global change impacts on biodiversity, and with the development of bioindicator systems. She is interested in methods for quantifying and predicting biodiversity patterns, and the use of these for addressing conservation

problems. Her PhD and postdoctoral research in the spatial ecology of insect assemblages led to academic positions at both Pretoria and Stellenbosch Universities in South Africa. Her work has been influential in establishing the scientific frameworks for monitoring biodiversity policy effectiveness for the Convention on Biological Diversity's 2010 and Aichi Targets, specifically for invasive species. Previously, she established and directed the Cape Research Centre of South African National Parks, a unit established to provide the scientific evidence required for managing environmental change in South Africa's national protected areas. She currently holds a Larkins Fellowship and Associate Professorship at Monash University.

# **OTHER INVITED GUESTS**

We have a number of other invited guests attending NZES2015 including people from the media, science communication and environmental education. We believe that by encouraging the participation of these groups, we can promote the science and application of ecology much more widely, thus meeting the goals of the New Zealand Ecological Society and sharing the many exciting stories and research that we talk about at the conference.

### Environmental education:



We are delighted to have **Tim Kelly**, a teacher at Hurunui College, North Canterbury, joining us this year. We have invited Tim in recognition of his outstanding contribution in actively engaging and enthusing students and the wider community to be

involved in hands-on conservation work and ecological awareness. It is inspiring to see what Tim and the wider community have achieved over the past seven or so years in the Nina Valley, Lewis Pass, in terms of pest control, species recovery and reintroductions and conservation action and awareness. This is an excellent local example highlighting just some of the positive outcomes that can be made when many people come together to do conservation. Tim has also had huge involvement in EcoBlitz and will give a presentation in the Science in Society symposium about some of the community achievements in conservation he has been involved with.

It is also great to have **Pete Somerville** (learnz.org.nz) and **Ruud Kleinpaste** (aka " Bugman") along this year. We have invited Pete and Ruud so they can learn the latest about what NZ ecologists are doing. Their roles in environmental education with school kids allows them to bring the results of the latest cutting edge ecological science to the next generation of ecologists and enthuse them with both the excitement of our science and also how our research makes a practical difference to improving the state of our environment and especially in conservation our unique biodiversity.



### Media:

We are fortunate at this year's conference to have both Alison Ballance (Radio NZ, Our Changing World) and Jamie Morton (Science reporter, NZ Herald) attending. While Alison will have a specific role in moderating the panel discussion after the Tuesday evening public lecture by Devon McLean, both will be interviewing conference attendee's gleaning information for stories for the coming year. It's time to make ecology well known to the public so don't miss the chance to be involved and share your research with some of the media personnel present at NZES2015!

### Science communication:

We are also lucky to be able to take advantage of the Science Media Centre's SAVVY programme this year, where scientists have the opportunity to undertake a 15-minute media training session that includes the production of a 90-second video-clip highlighting the best content from this session. In addition, **Dacia Herbulock** is giving a 15-minute plenary on science communication later in the conference which will be great for us ecologists as communicating what we do is becoming increasingly important.





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# 15 MINUTE MEDIA TRAINING FOR SCIENTISTS

# NZ Ecological Society 18 NOVEMBER 2015

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Participants will receive a 90-second video clip highlighting the best content from their session.

An ideal opportunity for busy senior scientists who find it challenging to make time for lengthier media training workshops.

Open by invitation to New Zealand-based researchers attending the NZES 2015 conference Advance sign up required.

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Science Media SAVVY Express is a project of the Science Media Centre, funded through the 'A Nation of Curious Minds' strategic plan for Science in Society (MBIE)

# **SYMPOSIUM DESCRIPTIONS**

# Plenary symposium: Non-government conservation initiatives

### Tuesday 17th November

### 8.45-12.30 PM

The opening symposium will explore the role of nongovernment initiatives in New Zealand conservation. This is becoming a key issue as government funding continues to fall far short of what is required to sustain our unique biodiversity. At the same time there is a burgeoning growth in non-government involvement in conservation ranging from local community groups to major philanthropic funded projects. In the first part of the symposium examples of non-government initiatives ranging from small, community-driven projects with limited funding and resources through to large-scale multi-million dollar conservation projects will be presented. Three broader perspectives on the contribution that non-government initiatives make towards biodiversity conservation from an ecologist, from the Department of Conservation and from the Nature Conservancy, the largest international conservation NGO, will then follow.

Introduction by Andrea Byrom (Landcare Research) followed by David Mules (Reconnecting Northland), Andy Lowe (Cape Kidnappers Sanctuary), David Miller (Banks Peninsula Conservation Trust), Maryann Ewers (Friends of Flora Community Conservation Group) & Brenda Tahi (Tuhoe Tuawhenua Trust).

Dianne Brunton (Massey University) provides an "Ecologists perspective" then Lou Sanson (DOC) on "Our nature - why community conservation really matters in NZ" before Peter Karieva (UCLA) joins us by video link to offer an "International Perspective". Conclusions by Nicola Toki (DOC).

## Symposium: Biological Heritage National Science Challenge

# Tuesday 17th November 2.00 - 5.30 PM

Organiser: Bill Lee

The National Science Challenge New Zealand's Biological Heritage (Nga Koiora Tuku Iho) is a new research initiative to protect and manage our biodiversity, improve our biosecurity, and enhance our resilience to harmful organisms. It is designed to foster national collaboration and partnerships to tackle big issues facing both biodiversity and biosecurity. This symposium covers some of the projects and opportunities presented by the Challenge. Although research results at this stage are limited, the talks provide an opportunity to define the science question based of existing or model data and outline the potential impact of the research for advancing management or solving a national issue. This symposium is preceded by a plenary presentation by Professor Bruce Clarkson that provides an overview of this National Science Challenge for the wider New Zealand ecological community.

# Symposium: DNA approaches in ecology

Tuesday 17th November

2.00pm - 3.30pm

### Organisers: Karen Adair & Gavin Lear

With recent advances in sequencing technology, ecologists are increasingly incorporating DNA-based approaches into their research. These techniques have been applied to a wide range of ecological questions. They can provide great insight into ecological systems when used both in isolation and in conjunction with more traditional methods. This symposium will highlight the breadth of ecological questions to which DNA-based approaches can be applied, including restoration ecology, microbial ecology, and paleoecology.

# Symposium: Ecology, impacts and management of invasive invertebrates and pathogens

#### **Tuesday 17th November**

#### 2.00pm - 3.30pm

#### **Organisers: Kevin Chase & Beccy Ganley**

The global economy and associated inter-continental trade of goods aide the movement of invertebrates and pathogens around the world, sometimes outpacing biosecurity strategies, technology and responses to incoming exotic organisms. This symposium will explore examples of important invasive insects and plant pathogens in New Zealand, review aspects of their ecology that make them successful invaders, and examine their actual and potential impacts on New Zealand's natural and modified environments. The intention of the symposium is to highlight threats posed by invasive insects and pathogens to encourage increased attention to these small organisms with potentially big impacts.

### Symposium: Our changing forests

#### Wednesday 18th November 9.15am – 12.30pm

### Organisers: Cate Macinnis-Ng & George Perry

Forests provide multiple ecosystem goods and services including carbon uptake and storage, water filtration, habitat provision, flood mitigation, maintenance of soil quality, combatting erosion and modulating climate. Global change processes are impacting on forests across the world, leading to deterioration in ecosystem services. These environmental change processes include deforestation, reforestation, eutrophication and climate change (particularly drought, fire and heat waves) and are altering forest composition, structure and function. In New Zealand, our forests are especially valuable because of the high proportion of endemic species and the rich cultural heritage of our iconic ecosystems. Furthermore, forestry products are the second highest export earner after dairy and indigenous planted forests are becoming an increasingly important part of this industry. Studies of change processes in forests include ecology, ecophysiology, paleoecology, modelling and remote sensing approaches. In this symposium, we invite talks within the realms of long-term forest dynamics and interactions between forests and climate.

# Symposium: Frontiers in ecological networks

#### Wednesday 18th November

### 9.15am - 12.30pm Organisers: Jason Tylianakis & Daniel Stouffer

For decades, ecologists have studied food webs as a tool for understanding how communities are structured. More recently, they have been used as a tool to understand how ecosystems respond to a changing environment, how community interactions shape evolution and change over time, and how hidden and indirect interactions may shape the population trajectories of species within webs. Moreover, the incorporation of network science into ecology has expanded our understanding of other community interactions, such as pollination, seed dispersal, and plant-fungal mutualisms. This symposium will bring together researchers from across the country and the world, whose research spans plants, vertebrates, invertebrates and microbes, from ecological to evolutionary timescales. It will demonstrate the rich spread of research on ecological networks being undertaken in NZ, and generate understanding of crosssystem generalities in network patterns and processes.

### Symposium: Developments in national monitoring of New Zealand's natural environment

#### Wednesday 18th November

#### 9.15am - 12.30pm Organisers: Ian Westbrooke, Peter Bellingham & Philippa Crisp

There is growing interest and demand for robust monitoring of New Zealand's environment at a national level. Major developments include: the proposed Environmental Reporting Act (ERA), the phased implementation of the Department of Conservation(DOC)'s three tier biodiversity monitoring system the development and implementation of biodiversity indicators across regional councils and sustainability indicators for the country's production sectors (NZ Sustainability Dashboard). This symposium will gather together scientists, technical experts, and managers involved at various levels to report and discuss on these developments, providing an opportunity to review and discuss how monitoring is developing. It will allow feedback from the broader ecological community to the experts and organisations involved, and has potential to stimulate further interaction and collaboration.

## Symposium: Conserving New Zealand's unique alpine biodiversity: recent advances and future directions

### Wednesday 18th November

### 1.45pm - 5.30pm

#### Organisers: Colin O'Donnell, Jo Monks & Kerry Weston

Alpine ecosystems (i.e. high altitude ecosystem types above the tree line) form some of the most extensive and significant environments in New Zealand. They support some of the richest areas of biodiversity in the country and for some species, the last refuge. New Zealand's alpine fauna has traditionally been thought of as relatively secure from the impacts of introduced mammalian predators because cold temperatures limit activity of mammals above the tree line. However, increasingly, data are being collected which indicate that introduced predators are contributing to significant declines in threatened alpine birds, reptiles and invertebrates, including our only truly alpine bird, the rock wren. In addition, it has been suggested that browsing by introduced herbivores is having significant impacts on endemic plants and ecosystem integrity. The alpine zone has become a focus for research on the potential effects of climate change on alpine endemics both directly and indirectly, for example through increased predation risk if high altitude areas become more inhabitable for rodents. Thus, there is an increasing need to manage high altitude biodiversity. The Department of Conservation has identified a set of representative ecosystem types for management nationally. These include 14 alpine ecosystem types, which collectively comprise about 25% (700,000 ha) of proposed management sites. However, currently there is uncertainty around the extent to which management of browsers and predators is required. We also have little understanding of how predation risk varies seasonally, annually or geographically. Consequently, there are no best practice management tools to undertake effective pest control to reverse declines in biodiversity at high altitude. For example, no toxin has been registered specifically to control stoats in the alpine zone. Against this background, presentations in this symposium will review recent research aimed at understanding ecological drivers and developing conservation management practices across a range of taxonomic groups and threat processes. Topics include descriptions of biodiversity values in the alpine zone and their interactions; the impacts of predators and browsers on alpine biodiversity; current understanding around the influence of climate on species, habitats and as a driver of pest abundance. We will conclude with a discussion on future research priorities.



# Symposium: Role of biodiversity in the provision of ecosystem services

Wednesday 18th November

1.45pm – 5.00pm

#### Organisers: Ecki Brockerhoff & Suzie Greenhalgh

Ecosystem services are the benefits provided by ecosystems that are of critical importance to humanity. These benefits include 'provisioning services' such as water, food, and raw materials, 'regulating services' such as climate regulation and the regulation of pests and diseases, 'cultural services' such as spiritual values and recreation benefits, and the longer term' supporting services' such as nutrient cycling and primary production. Biodiversity underpins all ecosystem services. As habitats differ in their diversity and composition, variation in the delivery of ecosystem services is expected, and this is evident in comparisons of services provided by different habitats. However, it is less evident to what extent there is a direct causal relationship between biodiversity and some ecosystem services. Identifying such relationships is one of the objectives of the symposium. The concept of ecosystem services is appealing because it provides a useful framework for identifying benefits obtained from biodiversity in natural areas and in production ecosystems. Maintaining and enhancing biodiversity may therefore be useful not only from a conservation point of view. The symposium will contribute to our understanding of biodiversity and ecosystem services associated with different land uses in New Zealand. Furthermore, the symposium will discuss how diversity at the landscape scale is likely to increase resilience of landscapes and communities. Collectively, the presentations in this symposium will serve to review the evidence for the role of biodiversity in the provision of ecosystem services across different land uses in New Zealand.



# Symposium: What's new in 1080 research since the 2011 PCE report

Thursday 19th November

9.15am - 12.30pm

#### **Organiser: Penny Fisher**

Among the range of methods used to reduce the impacts of invasive animals on NZ ecosystems, use of the vertebrate toxic agent sodium fluoroacetate (1080) baiting retains an important role. Despite over 65 years of research and practical experience, use of 1080 and particularly its aerial application continues to attract opposition from some sectors of society. There has always been a corresponding demand for research, monitoring and investigation of the risks of 1080 use, and the development of alternative methods. In 2011, the New Zealand Parliamentary Commissioner for the Environment evaluated the use of 1080 and acknowledged the solid body of scientific research available, which was used to support the conclusion that 1080 should not only continue to be used, but that more of it should be used. This symposium covers research, monitoring and review that has been ongoing or initiated since the 2011 PCE report, to provide a 'snapshot' update of the current issues, challenges and questions related to 1080 use. Presenters from a range of agencies will cover topics including effects of 1080 use on bioversity values and non-target birds, movement and degradation of 1080 in natural environments and animal welfare.

### Symposium: The importance of epibiosis as driver of biodiversity and productivity in New Zealand ecosystems

#### Thursday 19th November

9.15am - 12.30pm

#### Organiser: Mads S. Thomsen

'Epibiosis' is the spatial association between a substrate organism (host or basibiont) and a sessile organism (client or epibiont) attached to the host's outer surface. Epibiosis is particularly important in New Zealand forests, where vines, lianas, epiphytes and mistletoes attach to host trees, and in marine benthic systems where entire communities of plants and sessile animals attach to either host plants or sessile host animals. Epibiosis not only modifies patterns of diversity, abundances and productivity of the host-client interactors, but also has flow-on effects on other species that depend on the host, the client or both - as recently highlighted in studies on facilitation- and habitat-cascades. To date, epibiosis and cascading effects have primarily been researched as case-studies for specific habitats in specific regions. We propose a symposium to bring together ecologists across ecosystems to identify similarities (and differences) between ecosystems, habitats and regions. New Zealand is an ideal place to start this 'unification' process due to an usual high degree of endemic, cosmopolitan and invasive hosts and clients in different ecosystems, many of which have been studied in some detail accross a wide variety of environmental gradients in this isolated bioregion. The aims for the symposium are (1) to use the symposium presentations as a platform to update NZ ecologists about the importance of epibiosis - and also point out when and where this process is of less importance, (2) to provide a forum for NZ ecologists to discuss ecological processes across ecosystems and (3) to establish future collaborations across research institutions and ecosystems with a common goal of increasing our knowledge of the importance of epibiosis in NZ.

# Symposium: Science in Society: citizen science, community engagement and socio-economic considerations

#### Thursday 19th November

#### 9.15am - 2.45pm

### Organisers: Monica Peters, Colin Meurk & Heidy Kikillus

What is citizen science? Citizen science is a broadly used term that describes public participation in science with environmental monitoring forming a key activity (Bonney et al. 2009). Citizen science provides an increasing amount of scientific data about changes in the world around us, with volunteers internationally contributing to large-scale studies in ecology and evolution (Silvertown 2009). In the future, citizen scientists may provide data to support environmental agreements such as the Convention on Biological Diversity, the Convention on Migratory Species and the Convention on Wetlands of International Importance (Danielsen et al. 2014). Citizen science in New Zealand Citizen science is gaining momentum in New Zealand. Projects are characteristically diverse and are led by universities, science providers and not-for-profit organisations. A form of citizen science known as community-based environmental monitoring is carried out by community groups engaged in projects to restore, enhance and protect habitat for native species (Peters et al. 2015). At a government level, the National Science Challenge proposal to build biodiversity management partnerships by using a citizen science framework simultaneously acknowledges the necessity for wider public engagement in science, while legitimizing and mainstreaming

community science activities. In addition, the new Science in Society Strategic Plan proposes to strengthen relationships between scientists and the public by developing a platform for collaborative research projects (Ministry of Business Innovation and Employment et al. 2014). What is missing? Despite the growth of projects throughout New Zealand, the citizen science movement lacks cohesion and strategic direction. The educational and scientific potential of community generated data has yet to be fully realised and questions remain around the quality of community-generated data. While systems within resource management agencies for using non-agency data are limited, an increasing number of different systems for managing community generated data are being developed by other stakeholders in the conservation sector. This has led to duplication and confusion about which system to use. The proposed symposium is an opportunity to address these knowledge and awareness gaps by firstly outlining the field and creating opportunities for dialogues occur over a broad range of topics central to growing citizen science in New Zealand. EcolSoc Conference participants are the ideal audience given that many will already be involved in some capacity with citizen science or work at the science/ public interface. Citizen Science Symposium aims This symposium on citizen science is designed to: -provide an overview of state of ecological/environmental citizen science in New Zealand -showcase a cross-section of diverse initiatives underway -investigate the challenges associated with setting up citizen science programmes and using community-generated data -foster discussion on how data validity issues can be addressed and overcome -highlight the role of technology in redefining how data are captured, used and shared -highlight considerations such as data ownership.



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- Dolphins of Aotearoa
- Land of Birds

# **POSTER PRESENTATIONS**

NAME	AFFILIATION	PAPER TITLE
Anderson, Barbara	Landcare Research	Microclimate matters: changes in decomposition rate
		along aspect and elevation gradients
Aubert, Marine	University of Canterbury	Investigating forest fragmentation thresholds for sustainable plant-bird mutualisms: a multidisciplinary
		approach
Black, Mandy	Lincoln University	Altitudinal effects on seed predation of native and exotic Asteraceae in New Zealand
Brandt, Angela	Landcare Research	Do environmental disturbance and non-native invasions obliterate evolutionary priority effects?
Brownstein, Gretchen	Landcare Research	Seed predation in forest fragments: edge and matrix effects
Buckley, Hannah	Lincoln University	Using codispersion analysis to characterise spatial patterns in species co-occurrences
Burrows, Lily M.	University of Otago	The relationship between stomatal density and elevation depends on microclimate
Carter-Brown, Ross	Lincoln University	Artificial bird perches with supplementary feeding as a tool for ecological restoration
Cook, Asher	Victoria University of Wellington	Developing an automated detector for an endemic passerine and comparing the automated and manual analysis of sound files
Cusens, Jarrod	Auckland University of Technology	Growing where others can't: radial stem growth in mangroves at multiple timescales
Curran, Tim	Lincoln University	The New Zealand EcoBlitz: uniting school students and scientists to survey biodiversity and inspire an ecologically literate generation
Cutting, Kiri	University of Waikato	Urban restoration ecology: Enrichment planting of <i>Beilschmiedia tawa</i> into the weed <i>Tradescantia fluminensis</i>
Girdwood, Tristan	Lincoln University	How might New Zealand's beech forest communities be affected by more frequent and intense droughts?
Hartley, Stephen	Victoria University of Wellington	Accounting for cross-species interference when monitoring with multi-species detection devices
Heap, Aaron	Unitec/NorthTec	Will tīeke ( <i>Philesturnus rufusater</i> ) from different populations form pair bonds when translocated to the same area?
Henderson, Anna	University of Canterbury	Seed dispersal of fleshy-fruited plants in isolated North Canterbury forest fragments.
Kim, Young-Nam	Lincoln University	Endemic earthworms and their biogeochemical impacts in New Zealand soil ecosystem
King, Carolyn	University of Waikato	The drama of conservation
Lefort, Marie-Caroline	Bio-Protection Research Centre, Unitec	Blood, sweat and tears: non-disruptive DNA sampling, addressing more than just physical integrity
McAlpine, Kate	Department of Conservation	Which woody weeds get replaced by native succession in New Zealand?
McCarthy, James	The University of Queensland	Incorporating species' abundances in models to predict plant community responses to climate change
Parker, Linda	University of Melbourne	Insights into the ecology of Astelia australiana, Tall Astelia

# **POSTER PRESENTATIONS CONTINUED**

Pohnke, Carina	Lincoln University	Intraspecific competition in New Zealand's beech forest: proximity of conspecifics limits tree growth
Powers, Breanna	The University of Auckland	Development and application of a spatial IBM to forecast greater prairie-chicken population responses to land use in the Flint Hills region of Kansas
Rodrigues, Anna-Paula	University of Canterbury	Environmental factors preventing ecological succession and restoration of woody tree species in degraded short tussock grasslands in New Zealand's South Island
Ryder, Jessica	The University of Auckland	What is the host range of Phytophthora agathidicida (kauri dieback disease) in New Zealand?
Silva, Marconi	Universidade Federal De Lavras	Understanding tourists' preference and accessing environmental opinion about two traditional show caves in Brazil
Suwanwaree, Pongthep	Suranaree University of Technology	Water and carbon footprint of refined sugar production from Lower Northeastern Thailand
Taylor, Riki	The University of Auckland	Post-fire community dynamics in a disturbed landscape, Great Barrier Island
Tulod, Adrian	University of Canterbury	Influence of canopy treatments on the growth of lowland totara under a regenerating kanuka forest, Tiromoana Bush, North Canterbury
Wehi, Priscilla	Landcare Research	Ecological Society diversity over 64 years: The times they are a-changing?
Williams, Bryn	Lincoln University	Boom and bust: rodent population trends in the Lewis Pass area from 2011-2015



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# WHAT IS THE NEW ZEALAND ECOLOGICAL SOCIETY?

The New Zealand Ecological Society was formed in 1951 to promote the study of ecology and the application of ecological knowledge in all its aspects. Through its activities, the society encourages ecological research, increases awareness and understanding of ecological principles, promotes sound ecological planning and management of the natural and human environment and promotes high standards both within the profession of ecology by those practicing it, and by those bodies employing ecologists.

### NZES Activities

- An annual conference comprising symposia, contributed papers and workshops, field trips and social functions.
- A scientific journal, New Zealand Journal of Ecology containing refereed articles on both fundamental and applied ecological research.
- A regular newsletter, to inform members of society activities and ecological news, and foster debate on current ecological issues.
- Awards, grants and prizes for New Zealand ecologists and students.
- Preparation of submissions on government policies relating to the NZ natural environment – we are currently looking for someone to join as an ex-officio member of council to help with this role.
- Involvement in ecological education at schools and in communities – we would like facilitate more awareness of ecology in school programmes.

# Support NZES

Donations made by members, sponsors and members of the public help us do our job better. The New Zealand Ecological Society is registered with the Charities Commission, so donations over \$5 qualify for a tax credit.

### Kauri Fund

The Kauri Seed Programme has been established to mentor and encourage undergraduate ecologists in the early stages of their ecological careers so they will become involved in the study and application of ecological science in New Zealand. The programme was established in 2010 as the first initiative of the Kauri Fund. Kauri Seed Programme Scholarships will be granted each year to undergraduate ecologists to enable them to attend the New Zealand Ecological Society's conference and student day. During the conference students will be allocated post-graduate student mentors who will help them get the most out of the conference. Look out for our Kauri seed scholars and help make them feel welcome and part of the ecological community! Donate to the Kauri Fund to help our future Kauri Scholars.

### NZES Awards & Grants

The NZES offers several awards and prizes. For nominations and queries about NZES awards and prizes, please contact the NZES Awards Convenor to nominate someone for an award in 2016.

- Te Tohu Taiao Award for Ecological Excellence
- Ecology in Action Practical application of ecological knowledge
- Honorary Life Membership
- Best publication on New Zealand ecology (offered for the first time in 2014)
- Best Publication by a New Researcher
- Royal Society of NZ Canterbury Branch Science
   Communication Award

# NZES also offers student awards and grants at the annual conference

- Best Student NZES Conference Paper several awards for outstanding student presentations
- Best Student NZES Conference Poster several awards for outstanding student posters
- Student Travel Grants specifically to attend the annual conference
- Kauri Seed Awards for undergraduate ecology students

# Join the New Zealand Ecological Society

Membership is open to any person interested in ecology and includes botanists, zoologists, teachers, students, soil scientists, conservation managers, amateurs and professionals. All memberships receive the journal and newsletter digitally by default. If you would like to receive the journal in hard copy form, an additional payment of \$10 is required. Unwaged memberships are for fulltime students, unwaged or retired persons, and must be approved by council. Tasman linkage memberships are available for existing members of the Ecological Society of Australia; these must be approved by council.

# Membership Costs

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