NEW ZEALAND ECOLOGICAL SOCIETY

Newsletter

Published by the New Zealand Ecological Society (Inc.),
P.O. Box 5075, Papanui, Christchurch 8542

No. 150, December 2014

ILLUSTRATE ECOLOGY

Flowering Alepsis flavida *at Craigieburn Forest Park. Photo: Jane Gosden*

Ngā mihi o te Kirihimete me Te Tau Hou
(Merry Christmas and Happy New Year).

FROM THE EDITOR

Kia ora koutou and welcome to the 150th New Zealand Ecological Society Newsletter. It's a bumper issue, thank you to all of the contributors for sending in their ecological news and notices.

I spent the last week in the beech forests of Kahurangi National Park and I was astounded by the sheer numbers of *Fuscospora* and *Lophozonia* (both previously *Nothofagus*) cotyledons that have appeared over the last month. The beech seed has germinated in a big way, which for me completes the picture of the beech mast rather nicely. Last year I worked in forests where the canopies turned red in bands as the beech flowering progressed up the mountainsides. Some days the pollen was so thick in the air that my boots and backpack became yellow and I could feel the gritty pollen on my teeth. Over winter I visited beech forests with golden brown canopies from the empty seed bearing structures still attached to the trees.

INSIDE:

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Layout and design: Jeremy Rolfe

The deadline for submissions for the next issue of this newsletter is ***Friday 13 March 2015****.*

Now these seeds have sprouted; and are an equally impressive sight, forming vast carpets across the forest floor. For me, this also reinforces the importance of DOC's "battle for our birds" campaign, as it provides a striking picture of just how many seeds fell in some areas.

However, some of the locals in my part of the world tend to disagree with the recent rounds of 1080 drops nationwide. If you drove from Murchison through Tapawera and into Golden Bay, as I have recently, you would encounter a large number of "Ban 1080" slogans painted onto the roads. I imagine these took a considerable amount of effort to create. The best bakery in town here sells large "Ban 1080" signs alongside their produce, and the local papers run the stereotypical "1080 kills kea" as their front page news (despite only one of 21 transmittered kea dying in a recent 1080 drop).

For me, it's the lazy reporting that I find the most frustrating. However, I'm hopeful that this is changing too. For example, 3rd Degree's recent feature on 1080 is well worth watching. Here's hoping that more media outlets continue down this line of better reporting instead of prioritising sensational headlines that sell papers.

Wishing you all a Safe and Happy Summer holiday and I look forward to receiving your newsletter contributions in the New Year. Ka kite ano.

BLACK MUDFISH DISCOVERY STUNS AND DELIGHTS WETLAND OWNERS

Matthew Bloxham

October the 1st 2014 will be remembered as an auspicious day by a small group of fish-fanciers from Auckland Council, Auckland Zoo, Mahurangi Technical Institute and the owners of a small wetland. The band of six had set out to search for the elusive black mudfish, (Neochanna diversus). The nationally threatened black mudfish is a little known and unique member of New Zealand's native fish fauna, unique because as long as their skin is kept moist, mudfish can survive the drier months buried in the mud of seasonally dry wetlands. As a result, mudfish are able to inhabit wetlands where other fish would normally perish.

Only two black mudfish populations were known to exist in the Auckland area, one at Tomarata and the other at Pakiri in the far north of the region and neither population is completely secure. In this month's survey, the ecologists focussed their efforts on three wetlands a short distance away at Te Arai with the aim of locating further populations. Finding more populations buys us time and will help ensure black mudfish are not lost from the region says survey organiser Matt Bloxham from Auckland Council's Biodiversity Team.

While mudfish were found to be absent at two of the wetlands investigated, by the time all the live capture traps had been retrieved the following day from the third wetland, nine mudfish had been found much to the delight of those involved.

Sarah from Auckland Zoo removes one of **the** *traps and inspects her catch, 3 mudfish caught in one trap. Photo source: Julie Underwood.*

The group's pleasure is understandable because as well as being rare in the region, black mudfish are more vulnerable to decline than most native freshwater fish. Many of Auckland's native freshwater fish species are found across a variety of habitats making them slightly less vulnerable to habitat alteration. These habitat "generalists" can sometimes move away from negative influences even if just temporarily. In contrast, black mudfish spend their entire lives in wetlands isolated from streams and the ocean. When wetlands are impacted by drainage, pollutants, introduced pest fish or habitat loss, mudfish lack the ability to colonise new habitat. To put it another way, once the habitat goes, or is in any way compromised, the black mudfish population is likely to go with it says Matt Bloxham.

The wetland where the fish were located is only small and, by being situated in a coastal hollow overlying leaky sandy substrate, it is vulnerable to drainage, more so than many of the region's larger wetlands. Fortunately the wetland is protected by a land covenant and the landowner has made tangible steps towards reducing the mudfish population's exposure to disturbance by planting and fencing the wetland's edges as well as committing to an ongoing weed and pest animal control program.

Further surveys will be conducted in the coming years in order to identify whether there are any other unknown, isolated populations remaining in the region. Active management of these wetlands where black mudfish are found, like that being undertaken by this wetland owner, will contribute to securing the future survival of this unique and vulnerable species.

SCIENTISTS MAKE RARE FIND IN AUCKLAND STREAMS

Susan Pepperell, NIWA

NIWA and Auckland Council freshwater scientists using fish pheromone samplers have made a rare discovery in two Auckland streams. Freshwater fish scientist Dr Cindy Baker and environmental chemist Dr Mike Stewart developed a pheromone sampler that detects the presence of lamprey (kanakana/piharau) in freshwater, an important taonga species for Māori but now believed to be in decline. Lamprey, which use pheromones to locate suitable spawning sites, are thought to be extremely rare in the Auckland Region, with only one observation recorded previously.

The samplers, which absorb pheromones going past in the water column, were placed in 12 streams across Auckland in a project commissioned by Auckland Council, and supported with additional funding from the Ministry for Business, Innovation & Employment. Dr Baker said the lamprey could be anywhere in the stream system when they secrete the pheromones that are then absorbed by the samplers. "Once analysed, the samplers indicate whether there are lamprey in the catchment and, to an extent, whether they are present in high or low densities." The samplers placed in the Piha and Glen Esk streams in the Waitakere Ranges were the only two streams to return positive results.

Electric fishing and a search for lamprey egg nests was then carried out along an area of about one km in one stream and 500 m in the other and the lamprey were discovered. "We found two juvenile lamprey in the Piha Stream and three in Glen Esk so they're not present in huge densities but they are definitely there. We'd anticipate that there may be higher numbers of lamprey in the stream's lower reaches. However, the deeper waters are difficult to survey so we specifically targeted higher stream elevations. ." Dr Baker said these streams drain the Waitakere Ranges and are a particularly pristine part of Auckland. "It is predominantly native bush and an area of high conservation value – this discovery only enhances the value of the streams in this area."

In addition to discovering lamprey, Dr Baker and her team also found shortjaw kōkopu, kōaro and torrentfish. None of these species have previously been documented in Glen Esk Stream. "There are only three areas in Auckland where shortjaw kōkopu have been found before. In Glen Esk Stream, we captured three within 100 metres. Kōaro are also rare in Auckland, which points towards the Glen Esk Stream as being one of Auckland Council's most valuable streams from a native biodiversity perspective."

Auckland Council senior biodiversity advisor Matt Bloxham said finding the lamprey was extremely exciting. "The interesting thing is that the pheromone signal was weak for Piha Stream and that was validated by us only finding a few juveniles. It certainly gives us something to work on. And without such an incredible methodology we would never have got this far and might never have found them," he said. As a result of the work, Auckland Council was now considering developing a control programme to manage predator numbers in the area. "A number of species of vermin have the potential to predate aquatic species particularly the eggs of kokopu which are laid beside the stream."

Dr Baker said the next step with the pheromone project was to better understand the concentrations of lamprey and determine whether there is a good correlation between what the pheromone samplers were indicating and the actual numbers of lamprey in the stream. They would also like to extend the samplers to include other pheromones. "At the moment we focus on petromyzonol sulfate but there are other pheromones that we know of that could also be examined."

NZES 2014 AWARD WINNERS

Details of awards are at: *http://newzealandecology.org/nz-ecological-society-awards-grants*

- Jason Tylianakis (University of Canterbury)—Te Tohu Taiao award for Ecological Excellence.
- Kevin Parker (Parker Conservation and Massey University)—Ecology in Action award.
- Mick Clout (University of Auckland)—Honorary Life Membership of NZES.
- Ellen Cieraad (Landcare Research, Lincoln)—best publication by a new researcher in NZ Journal of Ecology, for Cieraad E, McGlone MS (2014) "Thermal environment of New Zealand's gradual and abrupt treeline ecotones", NZJ Ecology 38: 12-25.

- Grant Norbury (Landcare Research, Alexandra)—outstanding publication on NZ ecology for Norbury G, et al. (2013) "Invasive mammals and habitat modification interact to generate unforeseen outcomes for indigenous fauna", Ecological Applications 23: 1707–1721.

NZ Royal Society prize for best poster for science communication relevant to NZJ Zoology

- Mary Morgan-Richards (Massey University) for "Species ecology - the distribution and abundance of forest invertebrates".

NZES prizes (also sponsored by Penguin Publishing and NZES2014)

- Amanda Taylor (Victoria University of Wellington) - best student talk for "A Darwinian framework for investigating epiphyte community development".
- Kirsty Yule (Victoria University of Wellington) - best student talk - second prize for "My enemy's enemy is my friend: Tri-trophic interactions between a predator-parasite-host assemblage in New Zealand".
- Matt Krna (Massey University) - Best student talk - third prize for "Ecoclinal trends of *Chionochloa pallens'* productivity and decomposition across an altitudinal gradient: What are the implications for endogenous C sequestration?"
- Ian Geary (Lincoln University) - best student poster - first prize for "New Zealand's exotic daisies have it easy: pre-dispersal seed-predation of daisy flower heads by insects".
- Asher Cook (Victoria University of Wellington) - best student poster - second prize for "Do forests fall silent directly following 1080 drops? Monitoring bird conspicuousness with acoustic recorders – Aims and methods".
- NZES2014 Special prizes sponsored by Penguin Publishing
- Anna Rodrigues (University of Canterbury) - most enthusiastic student (first to register!). Her poster was on "Ecological thresholds as constraints to the growth and survival of woody tree species in degraded grassland in the South Island's dryland zone".
- Julia Panfylova (Massey University) - the student talk with the best statistical analyses (meaning it was hardest to understand!) for "Applying structured decision making to management of the reintroduced hihi population in Bushy Park".
- Sarah Killick (Unitec Institute of Technology) - the student poster with the best use of imagery, also sponsored by Craig Potton Publishing for "A study of the epiphytic water (phytotelmic) community of the native *Collospermum hastatum* (Colenso) Skottsb. (Monocotyledonae) in New Zealand".
- Kevin Chase (University of Canterbury) - the best student talk on understanding invasive species for "Allee effects and the establishment of exotic invasive bark beetles".
- Kyleisha Foote (Massey University) - student talk best promoting conservation, also sponsored by Craig Potton Publishing for " Role of the dairy industry in New Zealand's ecological decline".
- Ursula Torres (Lincoln University) - the student talk best showing resilience for "The realized climatic niches of freshwater invertebrates: are they stable?"
- Ellie Dyer (University of Adelaide) - the best student talk relevant to the invasion theme of the conference, for "The Global Avian Invasions Atlas (GAVIA): Using a global-scale spatial database of alien bird species to answer key questions in invasion ecology".

Our Kauri Seed Scholars for this year are:

- Lisabertha Latu Clark
- Toni Wi
- Josephine McCambridge
- Philippa Ebdon
- Daniel Bowater
- Ian Geary
- Shanti Morgan
- Sam Macauley

CONFERENCE REPORTS

NZES 2014

Closing Report

Jill Rapson

NZES 2014, the Society's conference for this year ran at Massey University, Palmerston North, between 16-20 November. There were 215 participants, a third of them students, and 112 talks and 25 posters were presented. Seven plenary sessions featured Phill Cassey, Chris Johnson, Maurine Neiman, Ken Thompson, and Janet Wilmshurst, as well as Young Scientists Rachael Gallagher and James Russell. The student session the day before the main conference was well attended, with 47 participants, an evening talk by Ken Thompson on "Science, myths and gardening" to the general public was well received, and the after-conference NVS workshop was well patronised by 10 keen data-addicts. Four fields trips ran the day after the conference, with up to 20 participants on each. Functions included a welcome gathering, a posters and drinks session and a formal conference dinner.

A special thanks to all those who organised symposia for the conference, and who chaired sessions. Without your contributions the conference would have been much the poorer.

The conference website will be disappearing shortly, but the abstract book will remain on the web linked to Jill's webpage, under (probably) http://www.massey.ac.nz/~grapson/, so that you can refer to it in the future, e.g., for PBRF purposes.

We are hoping to put together a special issue of the New Zealand Journal of Ecology. If you are interested in preparing a contribution for this, especially with respect to the conference's invasion theme, then please log your interest with Jill before Xmas, outlining the title or topic you propose. Then we will assess our options and get back to you. Please bear in mind that any submissions will need to comply with the normal standards, criteria and procedures of the Journal.

Local Organising Committee

- Jill, Paul, Phil and gang
- Adina Rohringer—registration
- Ange Smith—AV support
- Ellen Schoener—AV support
- Jill Rapson—Massey organiser
- Lizzie Daly—loading talks
- Matt Dickson—AV support
- Matt Krna—loading talks
- Melanya Yukhnevich—Student day; AV support
- Paul Barrett—Massey organiser
- Phil Battley—Massey organiser
- Shelly Deegan—Massey conference office
- Tessa Roberts—student day; AV support
- Zavana Keenam—functions
- Assisted by Tracy Harris, Shaun Nielsen and Cleland Wallace.

Kauri Scholar Report

Sam Macaulay (BSc Ecology major, Botany minor at the University of Otago).

As a Kauri Seed Scholarship recipient this year I had the valuable experience of attending the 2014 NZES conference. Having just completed my ecology major at the University of Otago, it was inspiring to hear all of the fascinating research presented at the conference before I begin my honours research next year.

A particular thank you to Tess and Mel who organised the student day on the Sunday prior to the conference. This was a great day to meet other students from around the country who shared similar interests. It was invaluable to meet some students in an informal setting prior to the conference proper, as knowing some other people at the conference during the week was very helpful! I recommend attending the student day to any new conference attendees and I would definitely use the day as a chance to practise a talk should I return with one to present next year!

The plenary speakers were particularly impressive. Phil Cassey presented some fascinating research on the legacy of invasive vertebrate species left by Acclimatisation Societies, contrasted with new alien vertebrate species invasions occurring today. Chris Johnson's research on the influence of human-mediated ecological changes on biological invasions in Australia, which have resulted in the high rate of extinctions that have occurred and the implications of these invasions on Australia's biodiversity conservation was also very interesting.

As a young ecologist just beginning my research, it was very valuable to hear from both other students and from those with more experience who shared their research over the week. Thanks also to Mike Joy for the interesting freshwater field trip following the conference. It was fun to get out to the local streams and catch some native Koaro and our longfin eel by electrofishing after a few days sitting indoors!

I am grateful for the opportunity to attend the NZES2014 conference thanks to the Kauri Seed Scholarship and I look forward to returning to future conferences in the years to come.

5TH INTERNATIONAL CONFERENCE ON RODENT BIOLOGY AND MANAGEMENT (ICRBM), ZHENGZHOU, CHINA, 25–29 AUGUST 2014

Deb Wilson, Penny Fisher, Andrea Byrom, Roger Pech; Landcare Research

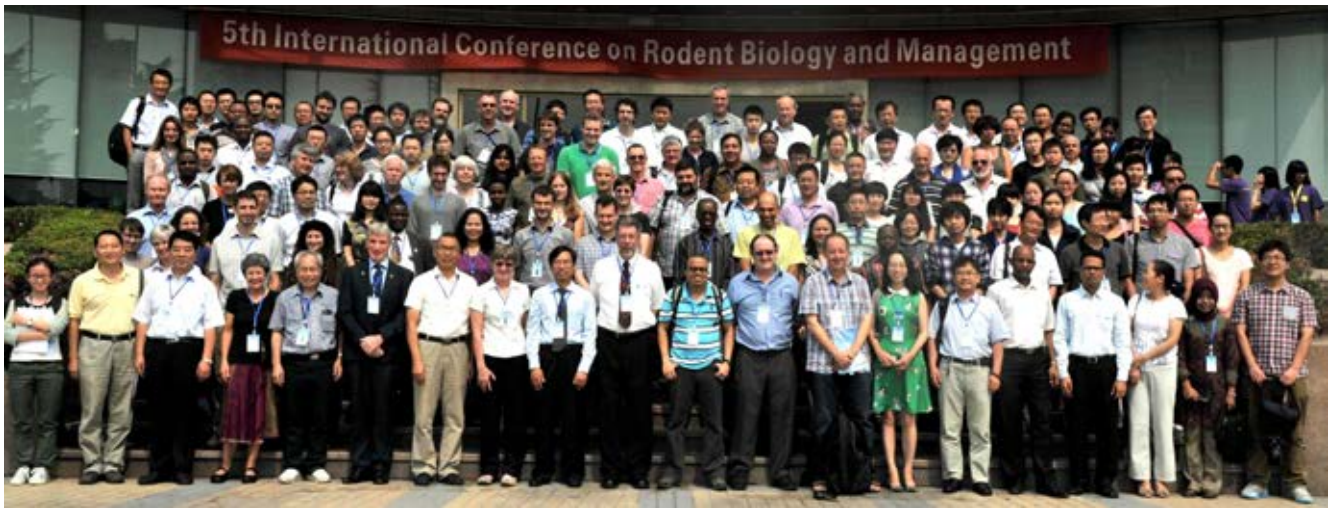
We attended the 5th International Conference on Rodent Biology and Management (ICRBM), held in Zhengzhou, China on 25–29 August 2014. This international conference takes place every four years and was previously held in Beijing, Canberra, Hanoi (Vietnam) and Bloemfontein (South Africa). It emphasises communication between different rodent research disciplines, including practical control of rodents for food security and disease prevention, and more theoretical study of rodent biology and ecology.

The 2014 conference was organised by an international team led by Prof Zhang Zhibin of the Chinese Academy of Sciences. It attracted 166 delegates from 25 countries, and 190 abstracts. A wide variety of symposia addressed topics of international interest, including disease, ecologically-based rodent management (EBRM) and fertility control. There was a mid-week tour to Zhengzhou's Henan Museum, and after the conference we travelled with a group by train to Xi'an, to see the thousands of terracotta warriors and horses buried around the tomb of the First Qin Emperor before 210 BC.

Some highlights of the conference were:

- Presentation on Global genetic surveys of black rats reveal a complex evolutionary history including ancient and recent introgression by Andrew Weiwel, PhD student at University of Adelaide, and co-authors Steve Donnellan and Ken Aplin. They used a combination of mitochondrial, Y-chromosome and microsatellite DNA of Rattus rattus (ship rats, which evolved in India) to show ancient allopatric genetic divergence of several populations in South and East Asia, and more recent development, geographic distribution (including Australasia), and translocation of multiple new lineages. This has implications for the invasion pathways of R. rattus into New Zealand and the Pacific, providing insights for management.
- Symposium on squirrels and the associated plenary lecture on Fear and foraging in rodents by Joel Brown from University of Illinois. Joel is an expert on applying a method known as 'giving up densities' (GUDs) for studying foraging behaviour. This method has been used in New Zealand to gain insights into how predators affect rat behaviour in New Zealand forests, and it holds promise for future studies of habitat use by invasive species.
- Plenary talk on Reversing the extinction crisis through eradication of introduced rats and mice from islands: globally shared opportunities and challenges by Gregg Howald from Island Conservation, a NGO based in Santa Cruz, California. This talk reviewed successes, benefits, and lessons learned from worldwide rodent eradications, many in New Zealand or involving New Zealand experts. The website http://www.islandconservation.org/ includes references and a detailed database describing vertebrate removals including island sizes, dates and methods.
- Symposium on urbanisation and rodent fauna outlining international situations (that contrast with the NZ situation of only having four species of introduced rodents) where native and invader species of rodents show different species composition and apparent adaptations to encroaching urban environments. A presentation by Wendy Gleen (Sydney University) Exploring habitat quality for the Australian bush rat Rattus fuscipes at weedy urban edges provided a good example of the use of simple tracking techniques to further explore habitat use by a native rodent, in relation to a competing introduced rodent, the black rat (or ship rat).
- Symposium covering ongoing efforts to develop fertility control for rodent management: Lyn Hinds (CSIRO) outlined a brief history of this line of research over the last >2 decades, concluding that there was yet some way to go in developing a bait-delivered (orally effective) fertility control agent for pest rodent management, and that such a technique would be applied as an adjunct to other (lethal) control methods. A few papers outlined ongoing laboratory and field research of Quinestrol for management of rodents and pikas (lagomorphs) in grasslands in China. Other potential anti-fertility agents for rodents currently being investigated include triptolide, levanorgestrol, cabergoline and vincyclo-hexidine (VCD).

- In Africa and South-East Asia, significant progress continues to be made on ecologically-based rodent management (EBRM). Although the scale at which EBRM operates is very different from the scale at which we manage rodents in NZ (e.g. 0.5 ha rice paddy cf. 10,000 ha aerial control operation), learning can occur in both directions. For example, our expertise in predicting rodent outbreaks is of interest in other countries. Conversely, in NZ as we shift from managing rodents in large contiguous natural ecosystems to increasing community and public involvement in rodent management in urban and semi-rural areas, we can learn from Asian and African approaches to ensuring community engagement and involvement in pest rodent control.



5ICRBM conference delegates in front of Glory Hotel, Zhengzhou

2014 WATER SYMPOSIUM

Sophie Hunt, University of Canterbury

The five-day joint society conference was organised by the New Zealand Freshwater Sciences Society, the New Zealand Hydrological Society and the Rivers Group, and was held from 24-28 November at the Marlborough Convention Centre in very sunny Blenheim. The theme of the conference was "Integration: 'The Final Frontier' ~ Whakakotahi te amine rohenga".

Around 500 delegates attended, from all over New Zealand and Australia, as well as many other places around the globe including South Korea, China, Chile, Brazil, USA, Canada and the UK. With more than 280 oral presentations spread over four days and running six concurrent sessions, I did not get the chance to see all the talks that I wanted to, but what I did see I found incredibly interesting, challenging, entertaining and informative.

Day one consisted of a warm welcome from Marlborough Mayor Alistair Sowman, followed by two keynote speakers: Geoff Simmons, of the Morgan Foundation, and Professor Kun-Yeun Han of Kyungpook National University in Seoul, South Korea. Professor Sandy Milner of the University of Birmingham also gave a fantastic plenary on Wednesday. His work focuses on changes to riverine systems driven by extreme weather events, which means he has spent a lot of his field work based in the beautiful Glacier Bay in southern Alaska (before you get too envious he did show us a picture of the electric fence that they set up around their tents at night to keep bears away…).

Topics covered were incredibly varied, and included climate predictions for freshwater systems, community involvement in restoration, the role of fish otoliths in understanding migratory history, and freshwater invertebrate fauna of Campbell Island. One of the more entertaining quotes, and one that I can relate to, was "If you can use your imagination with me, and put statistics aside for a little bit…" (Although don't get the impression that that talk wasn't scientifically sound, it covered some excellent research into stream restoration in the North Island!). I was particularly interested to learn about sediment vacuum cleaners, dancing pigs, hand-polishing 100µm fish otoliths, Sydney building managers and how *Potamopyrgus* (New Zealand mud snail) is taking over the world. I tried to convince my talk audience that potential increases in mosquito numbers due to climate change was a good thing, as it was native rather than exotic mosquitoes that might be increasing, but I'm not sure that they were convinced.

The poster session was also fantastic. Each presenter was filmed speaking for one minute about their research, which was live streamed into the main presentation room. This gave everyone the opportunity to see what the poster topics were, and allowed for sharing to a much larger audience than the small pace would otherwise allow.

As well as four days of conference talks, there were a wide range of social and educational activities organised. Workshops covered gravel river beds, assessing impacts in freshwaters, fine sediment, and a session dedicated to career advice for early scientists. While I didn't make it to one of the field trips, Nicki Glenjarman, another student in

our lab group did. She joined the group that headed to Havelock and the Pelorus River, where they visited the Taylor dam, a mussel farm (green-lipped mussels are now known as green-shelled, possibly due to the thought of eating a big bowl of green lips…), and lunch at Pelorus Bridge, near the site where the 'hobbits in barrels' arrived in the Lord of the Rings movie.

The student function was a great way to meet other students from around the country, being a slightly adapted version of a Rubik's Cube party. The conference dinner was also fantastic, with the theme "Space, the final frontier". While this possibly resulted in Blenheim running out of star stickers and tinsel (right before Christmas!), there were some people who had clearly put a lot of time into their costumes. My particular favourites were all the planets of the solar system dressed as Roman gods (including Pluto), and a four person rocket (despite its accident with the drink table early in the evening).

My overall impression from this conference is one of optimism. There are so many talented scientists working together asking the right questions and challenging old ideas that despite the pressures facing them, the future for New Zealand's freshwaters have a great chance of being a positive one.

The next New Zealand Freshwater Sciences Society will be held in Wellington in 2015, and will be a joint conference with the Australian Limnological Society. Hopefully in future years we will see a joint conference with NZES and NZFSS!

The 2014 Water Symposium conference dinner was "out of this world". Photo: Sophie Hunt.

TRIBUTE TO DAVID GALLOWAY

We are saddened at the passing of David Galloway, eminent lichenologist and Research Associate in Landcare Research's Dunedin office. David died on 6 December, aged 72, after a short illness. We extend our sympathy to David's wife, Patricia, and his family and to many colleagues who worked closely with David.

David's outstanding work on lichens is recognised worldwide and he was held in high regard by the botanical community internationally. David had a very strong record of high quality publications. David's contribution was recognised by his election as a Fellow of the Royal Society of New Zealand and his receipt of the 2010 Hutton Medal for excellence in plant sciences and the 2008 Acharius Medal for lifetime achievement in lichenology. Along with his many intellectual accomplishments, David was also warmly regarded by his many colleagues and admired for his wisdom and kindness.

Respecting David's wishes, Patricia plans a celebration of his life in late February in Dunedin.

NEWS FROM COUNCIL

AGENDA OF NZ ECOLOGICAL SOCIETY 61ST AGM, 18 NOVEMBER 2014, MASSEY UNIVERSITY, PALMERSTON NORTH

The meeting opened at lunchtime.
Apologies – Olivia Burge, Ellen Cieraad, Jane Gosden

Minutes of 61st AGM

Minutes taken by Laura Young
Chris Bycroft moved that the minutes from 2013 AGM be accepted as a true and correct record, seconded, Deb Wilson, carried.

Matters Arising

None

PRESIDENT'S REPORT

President report was presented by Chris Bycroft

It is my pleasure to present the annual report for the 62nd Annual General Meeting of the New Zealand Ecological Society. This report covers the time period between the combined conference between the New Zealand Ecological Society and the Australian Ecological Society (EcoTas) in Auckland in November 2013, and the current conference at Massey University. I would like to take this opportunity to thank the organisers of this year's conference at Massey University in Palmerston North, and particularly Jill Rapson. Conferences are a great opportunity to meet with other ecologists, hear about, and discuss the latest ideas in ecological research. I would also like to acknowledge Bruce Burns and the team behind the 2013 EcoTas conference in Auckland for a very successful conference and field trip programme.

One of the highlights for NZES from the current year has been the complete upgrade of the New Zealand Ecological Society website. This has recently gone live. The *New Zealand Journal of Ecology* section of the website has also been upgraded as part of this process. I hope most of you have taken the opportunity to look through the new website, and that you will find it an ever increasingly useful resource. While the upgrading of the website has been an expensive process, it is an extremely important way for the society to communicate to members, and to society in general. I thank the previous council, who made the decision to undertake this upgrade before I was elected to president and for getting this project off the ground. I would particularly like to acknowledge the work of Laura Young and Ellen Cieraad have put into upgrading the website. Their work, I believe has been quite outstanding for the society, and at times has been an almost full-time and unpaid job in terms of the hours put into the website redevelopment.

Our journal, the *New Zealand Journal of Ecology*, continues to present high quality research, with a New Zealand perspective in the field of ecology. It has become a great resource for New Zealand and international ecologists. Jo Monks has continued to keep the journal to a high standard, almost seamlessly while undertaking the tasks of parenthood. I would like to all who have contributed to the work put into the journal, particularly the editorial board and early career mentor reviewer scheme. One of the big advantages in publishing in the *New Zealand Journal of Ecology* is that the articles are easily accessible to all practicing ecologists in New Zealand. I thank all of the ecologists that have chosen to publish in our journal. In the past several years there has been considerable discussion of the advantages and disadvantages of keeping a hard copy (print) version of the journal, or going completely online only. I thank Deb Wilson, Clayson Howell, and Jo Monks for the work they have done in reviewing this and a summary of this will be presented in this meeting.

This year we had a change in editor of the newsletter. First, I would like to thank Debra Wotton for being editor of the newsletter for over three years. Debra has produced the newsletter to a very high standard, brought in new ideas, and I have always enjoyed reading the articles. Jane Gosden agreed to take over as newsletter editor in early 2014. Jane has to date produced two newsletters. The high standard of the newsletter has continued, and I am sure Jane will bring in new ideas over her term as editor. I thank Bruce Burns who has continued to prepare the 'Ecotones' section, a section I particularly find useful. This section summarises articles on New Zealand ecology, excluding those published in the *New Zealand Journal of Ecology*.

The society has made three submissions in this past year. Two submissions were made to the Minister of Conservation. One was in support of a proposed Dryland Park in the MacKenzie Basin. The other was to support the 'Battle for the Birds' response to mast seeding currently taking place in New Zealand. Comments on concerns with the diversion of funds from other existing aspects of the Department of Conservation programmes to fund this programme were presented. A submission was also made in support of the New Zealand Freshwater Sciences Society submission on the proposed amendments to the National Policy Statement for Freshwater Management. The council is keen to develop the role of submissions further within council, or even establishing ex-officio position within council.

The EcotTas conference in 2013 further developed the strong relationship between the New Zealand Ecological Society and the Ecological Society of Australia (ESA). The 'Tasman Linkage' is now easily accessed for Australian members on the upgraded NZES website. Likewise, our members can now join ESA for $46 AUD. Both ESA and NZES are keen to continue with joint conferences at four yearly intervals, with the next joint conference due to be in Australia in 2017. At an international level, Shona Myers continues in her role as president of INTECOL, providing a New Zealand perspective to their board.

I would like to make a special note of two significant New Zealand ecologists who passed away in the last year, Colin Burrows and Tony Whitaker. Both have made a considerable contribution to New Zealand ecology, and conservation of plants and animals respectively. Obituaries for both of these ecologists are presented in the March edition of the Newsletter - and I encourage all members to read these articles if they have not already done so.

I would like to thank all the hard work everyone on council has put into the running of various aspects of the society in the last year. I can say that everyone on the current council has given a considerable period of their time to the society. I would like to acknowledge the support of council members in keeping me informed as to what has happened in the previous two years since my previous time on council ended in 2011. Shona Myers and Mel Galbraith, as past presidents, have always been willing to let me know what presidents do. Deb Wilson (vice-president) has been able to regularly help when I have been away in the field. Clayson Howell has continued his service as Treasurer, George Perry on awards, and Olivia Burge (who has been in her first year in council) has willingly helped with many tasks including submission writing and helping to organise the Kauri Seed Programme. Mel Galbraith is stepping down from council after nine years in various roles including two years as president. I would like to thank him for all the time and wisdom he has given to the society and wish him well with his future studies. All council members' work is done on a volunteer basis, and it is remarkable what has been achieved in the last year considering that scientists are busy people at work, and all have family lives. I congratulate two councillors who have become parents for the first time this year.

It is a privilege to be a member of the New Zealand Ecological Society. It is remarkable we have such a strong society in country of our size, which is an indication of the calibre of ecological scientists present, and of course, our fascinating ecology. I think it is great achievement that we have had annual conference in each year of the society's existence. I encourage members to contribute to the society, and take advantages of the many resources, and activities it provides. People working together can come up with considerably greater ideas than people working on their own. That is part of the reason we have our society - to work together to bring our science to the community, and to discover and be excited about the fascinating things about our biota, and how they interact in the world around us.

Presented by President Chris Bycroft, Chris moved president's report be accepted, accepted Susan Timmins, carried.

TREASURER'S REPORT

Clayson provided a Treasurers report for Dec 2013 – Nov 2014

Account balances

	13/11/2014	15/09/2014
NZES Cheque	$3,599.27	$3,435.77
NZES Savings	$365.46	$4,807.37
Barlow Fund	$73,447.91	$72,858.82
Kauri Fund	$97,682.23	$96,911.91
Westpac(1 Oct)	$4669.21	$959.92 (01 July)

Cheques since September 15

Payee	Cheque	Amount	Date
Fusion, Website	100543	-3657	28/10/2014
George Council travel	100542	-195	6/10/2014

Banking changes

The society can now manage bank transactions through electronic banking, rather than using mail and cheques. We will continue to require two signees for each payment transaction. This will speed the process up of managing payments. We expect to have this running immediately after conference.

Merchant Account is now established with ANZ. Once it is working I will transfer all funds from Wespac and close that account.

We can now accept credit card payments on our website. The contract with payment express will cost $30 per month.

2013 accounts for presentation at AGM

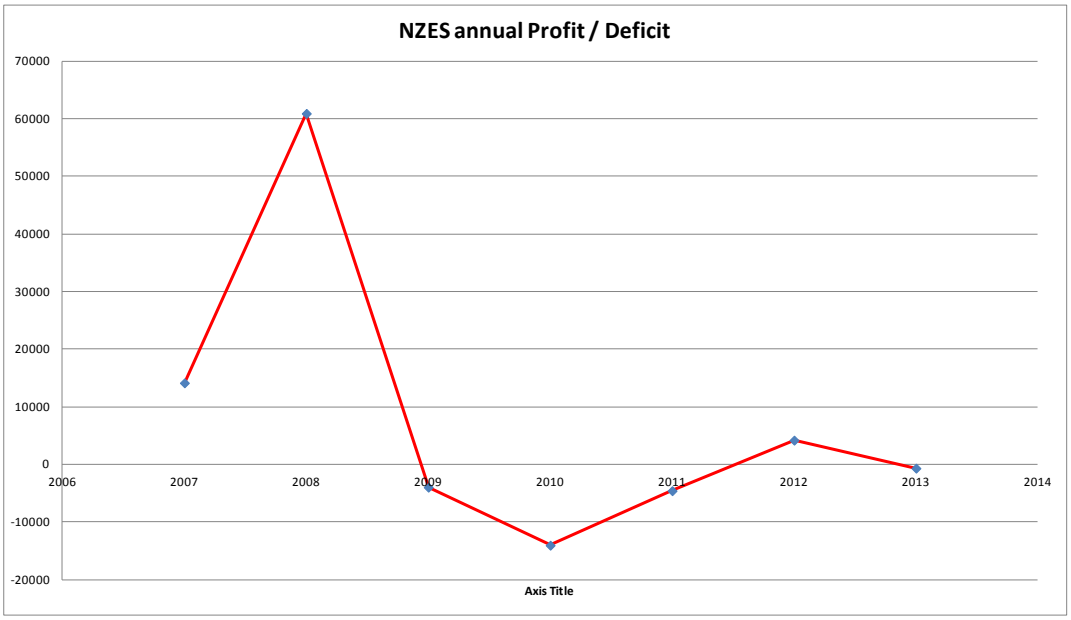
$600 loss for 2013 year.

Profit returned by Lincoln organisers, less the $5,000 seed funding.

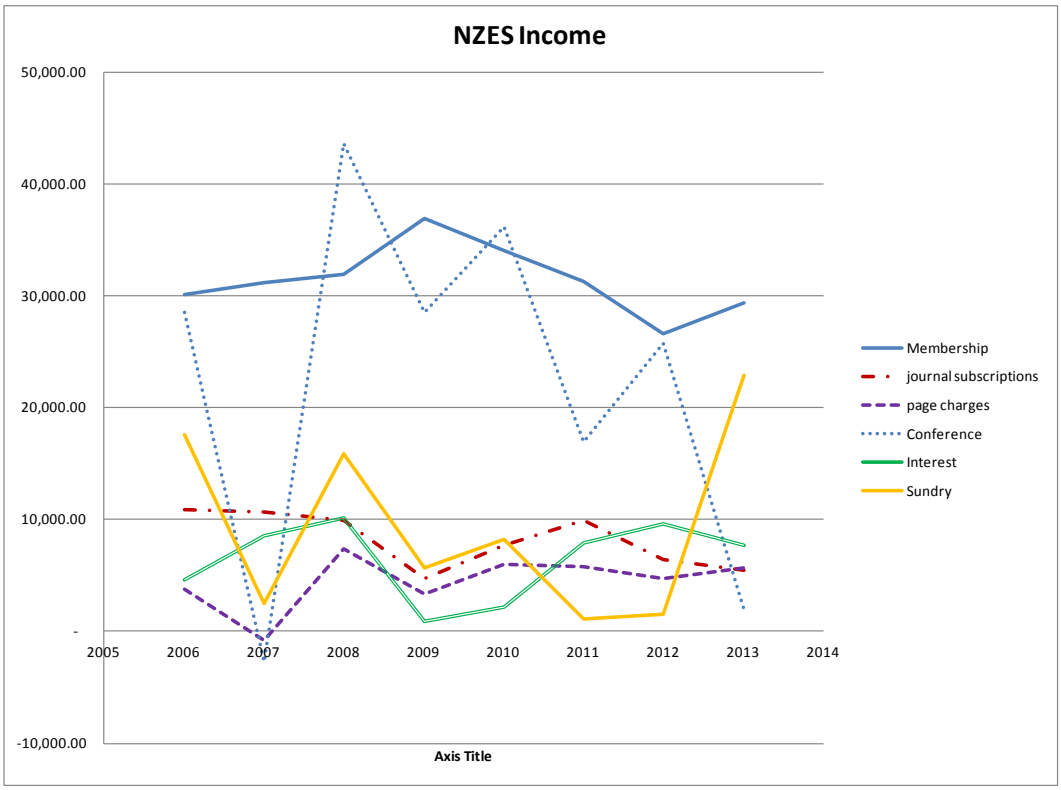
Sundry. : Includes

Notes

2013 conference loss will appear in 2014 Accounts.
Tiri special issue $4800 outstanding
Relative to previous years



Where does our income come from



- But, 2014 tracking for a loss.
- 2013 conference settled in 2014 $12.800
- Web development $27,395.76 (year to date)
- Outstanding $4800 for the tiri special issue.

Dave Kelly pointed out the society usually have enough in accounts to buffer us in case. Asked whether the Barlow and Kauri funds are ring-fenced but Clayson wonders whether we can move a bit out of both to make sure there's enough in main account. Dave asked whether it was legal for us to move funds around but Clayson and Mel suggest that council and the Kauri fund trustees can do this.

Clayson Howell moved that the financial report is a true and correct record, seconded Dave Kelly, carried.

SECRETARY REPORT

Laura Young presented the membership report for 2013-2014.

As at 15 November 2014 the total membership of the New Zealand Ecological Society is 594. This remains the same (2 less) than membership for 2013. In 2012-2013 there had been a significant increase in "unwaged" members, which now a make up 25% of the total membership and this has remained the same in the 2013–2014 year.

JOURNAL EDITORS REPORT

Jo Monks presented the NZJE editor report for 2013-2014

2014 issues

We produced two regular issues of the journal in 2014 (Volume 38). Issue 1 contained 17 articles; issue 2 contained 18 articles and an obituary.

2015 issues

The first issue of the *New Zealand Journal of Ecology* for 2015, Volume 39, No. 1, contains 16 articles, including an invited Review Article by Ian Jamieson based on his plenary at the 2014 New Zealand Ecological Society conference. Six articles are available on the website as online earlies; seven more are ready and await uploading.

Issue 39 (2) for 2015 is a regular issue for which 6 papers have already been accepted.

Special issues

The next special issue is likely to be on rat eradications, based on a symposium "50th anniversary of NZ rodent eradications" held in September 2014 (http://www.science.auckland.ac.nz/en/about/our-research/rateradication.html) coordinated by guest editor James Russell.

Phil Seddon is considering coordinating a special issue on de-extinction based on the symposium held at the 2014 New Zealand Ecological Society conference.

Submissions

So far in 2014, 63 manuscripts have been submitted to *New Zealand Journal of Ecology*. Submissions seem to be increasing from an average of 55 per year to 70 per year which is driving a greater number of articles per journal issue and a greater workload for the editorial board. I am addressing the latter by expanding the editorial board slightly.

Editorial board changes

Since the last AGM, Angela Moles, Kelly Hare, Kay Clapperton and Sarah Richardson resigned from the editorial board.

Dean Anderson (Landcare Research), Deb Wilson (Landcare Research), Fiona Thomson (Landcare Research), Kerri-Anne Edge (ecological consultant), Brent Sinclair (University of Western Ontario) and Margaret Stanley (University of Auckland) have joined the editorial board.

Journal impact factor

The 2013 journal impact factor (published in 2014) was 1.06. This is a 0.76 decrease from the high of 1.82 in 2012 and reflects the loss of the effect of the Feathers to Fur special issue.

New website

As part of the Society's website upgrade the journal gained a new website, which went live in July (http://newzealandecology.org/nzje/). The new journal website has the same functionality, but a more modern look and a few extra features. I'd like to say a huge thanks to Laura Young and Ellen Cieraad for all of the work they put into this.

Mentor scheme

Our early career researcher and mentor scheme (launched in 2013) has produced a database of 50 willing reviewers/teams. The journal's editorial board checks for expertise on this database and invites reviews from members before asking other reviewers. Thanks to those who have signed up and reviewed articles already.

Information on the scheme and signing up is at http://newzealandecology.org/nzje/nzje-reviewer-mentoring-scheme. Please sign up if you are interested!

Online only?

The Ecological Society Council has recently investigated costs of retaining a hard copy journal compared with going online only. The figures suggest that retaining a print copy is not costing the society extra (when revenue from page charges and library subscriptions are considered).

The journal's editorial board favours keeping the current model, but making the hard copy optional (opt-in rather than opt-out) for subscribers and members and suggests that payment for hard copy is reasonable. The board strongly believes that free electronic access is the only way to keep the journal viable and notes that the Society's mission is

to make ecological science widely available. The current model conforms to that aim. I wish to thank the journal's technical editors, editorial board, reviewers and authors for their energy and commitment to producing a high quality journal for New Zealand ecologists. I would also like to specially acknowledge the input of Kay Clapperton, who served on the editorial board for 20 years before resigning in December 2013.

Council has calculated the figures of going online only. Mostly international subscribers are currently subsidizing our journal hard copies. Jo welcomed comments on increasing the journal cost to $10. Everyone seemed happy.

Ecki Brockerhoff encouraged the special issue on invasions should go ahead.

Lower impact factor than previous years discussed and Ecki suggested to avoid plan for special issues to take into account any lows. Papers might potentially be cited more from special issues. Jo is encouraging more special issues, plenaries, review papers, invited papers on topics that could be of particular interest. Invited articles are often not taken up. Dave Kelly thanked and congratulated Jo and other editorial board and contributors for their hard work.

NEWSLETTER REPORT

Laura Young presented the newsletter report on behalf of newsletter editor Jane Gosden

After taking on the newsletter role late last year I have produced two newsletters: June & September. Work is underway for the December newsletter - contributions are due on the 5th of December. Submissions to the newsletter have been steady with an enthusiastic increase in the number of postgraduate profiles being submitted.

Unfortunately work commitments have prevented me from attending the 2014 Conference. Future planning for the newsletter is to move to an online only format, with a search function for individual features like book reviews and conference reports.

WEBMASTER REPORT

Laura Young presented an update on the new website work and development.

The new website and journal website went live several months ago and are looking great and functional. The switchover was reasonably smooth but we are still doing a lot of work with Fuzion – our web development company. The new journal site is now integrated with the rest of the website. We have the site linked with the facebook page which is also gaining popularity with over 600 "likes" and lots of posts receiving a lot of views. We are still doing a lot of work developing the capabilities of the new system such as the membership system, creating rolling membership, the ability to join for multiple years, pay online etc. Clayson has nearly finalized the DPS online payment system so this should be up and running shortly.

Chris Bycroft moved that Laura and Ellen were thanked very much for organising the web development and Deb seconded this.

ELECTION OF OFFICERS

Nominations for officers were called.

1. President

Susan Timmins nominated Chris Bycroft, seconded Debra Wotton. Chris accepted the nomination, carried.

2. Vice president

Murray Williams nominated Deb Wilson, seconded Margaret Stanley. Deb accepted the nomination, carried.

3. Secretary

Debra Wotton nominated Sandra Anderson, seconded Janet Wilmshurst. Sandra accepted the nomination, carried.

4. Treasurer

Everyone nominated Clayson Howell, seconded unanimous. Clayson accepted the nomination, carried.

5. Council members.

There are two positions vacant on council. George Perry and Ellen Cieraad are eligible for re-election for the 1-year council positions and it was unanimously decided that George and Ellen are re-elected, carried.

INTECOL UPDATE

Shona Myers called for NZES input into plenaries, symposia and other ideas for INTECOL next time. Shona going to China next year to set up committee and would really like input from New Zealand ecologists.

ELECTION OF KAURI FUND TRUSTEES

Jacqueline Beggs and Mick Clout nominated to remain on Kauri Trust. Chris moved this was accepted, Dave Kelly seconded, carried.

GENERAL BUSINESS

1. Nomination for life membership. Society Rules says this needs to be announced at AGM so James Russell nominated Mick Clout and Rod Hay, seconded at AGM by Deb Wilson. This will be presented at the conference dinner. All approved that this be accepted.
2. Conference in 2015 will be 16-19th November in Christchurch at the University of Canterbury.
3. DK gave his annual report for thanking council and especially mentioned a huge thanks to Clayson for his hard work as treasurer for 7 years. Everyone agreed Clayson has done a wonderful job and treasurer over this long period of time. Deb Wilson thanked Mel Galbraith for his time on council and as president, Frances Schmechel seconded.

NZES MEMBERS PRESENT (36)

Chris Bycroft, Mel Galbraith, George Perry, Steven Gorinski, Tatsuya Ide, Bill Lee, Tim Curran, Debra Wotton, Halema Jamieson, Janet Wilmshurst, Colin O'Donnell, Ian Jamieson, James Russell, Craig Bishop, Sandra Anderson, Margaret Stanley, Jon Terry, Frances Schmechel, Susan Walker, James Lambie, Stephen Hartley, Murray Williams, Simon Moore, Kevin Chase, Ecki Brockerhoff, Dave Kelly, Isabel Castro, Jo Monks, Phil Seddon, John Innes, Susan Timmins, Shona Myers, Clayson Howell, Deb Wilson, Laura Young, Kimiko Okabe (non member).

POSTGRAD PROFILES

Sophie Hunt

Sophie Hunt is a Masters student at the University of Canterbury in the Freshwater Ecology Research Group. She has received funding support from Meadow Mushrooms and the Todd Foundation. Her research is also supported by the Brian Mason Scientific and Technical Trust.

My research is looking at how multiple global change drivers (such as climate change, urbanisation and biotic invasions) affect biotic communities in freshwater ecosystems. My method for investigating this is to look at how predator-prey interactions, which are feeding interactions between a predator and its prey, change with altered conditions.

Sophie Hunt samples a Canterbury high country lake.

I am particularly interested in how predator-prey interactions involving native species compare to those involving exotic species, and if they show different responses to the same stressors. In other words, will climate change affect native species in the same way as exotic? The way that I am investigating this is through a series of microcosm experiments using native and exotic mosquito larvae, and some of their invertebrate predators. I have conducted both habitat drying and habitat warming experiments so far, and have some interesting results.

Another part of my research aims to more clearly define the realised niches of both native and exotic mosquitoes in Canterbury and Westland. In an attempt to answer this question I conducted a survey of more than 200 potential mosquito habitats, collecting both abiotic (e.g., temperature, habitat area, conductivity) and biotic (invertebrate samples) information from each of the habitats. My current goal is to interpret the data in a meaningful and statistically robust way.

Aside from my research I am enjoying being on the Biosoc committee at the University of Canterbury, and I have just finished organising a great photography and art competition. It was a great success, and I entered a photo from a recent canoe trip in the Boundary Waters of Minnesota, USA. I also enjoy a good game of squash. For more information on my research please have a look at: http://sophiehuntresearch.wordpress.com

Helen Nathan

Helen is a PhD candidate at the University of Auckland, supervised by James Russell and Rachel Fewster, and Bruce Warburton of Landcare Research. Helen receives funding support from Landcare Research and the University of Auckland.

The ability to detect cryptic pest animals is fundamental to conservation practice. Yet, factors affecting the probability of successful detection are not well understood. My research closely examines detection probability for one model pest species, the ship rat (*Rattus rattus*). In particular, I am interested in variability in behaviour between different individuals—for instance, are some rats much more "trap-happy" than others?

Helen Nathan holds an anaesthetised marked rat.

I undertook an intensive field study to record behaviour of wild ship rats in relation to three types of device commonly used for control and/or detection; tracking tunnels, Philproof bait stations, and snap traps inside a wooden tunnel. For these devices to be effective, rats must first encounter the device, then physically interact with it. I live-captured rats in the field and marked them for individual recognition using an RFID tag and a visual identifier. A subset of these rats were also fitted with a VHF radiocollar. Camera-traps and RFID loggers were used to monitor a grid of the three types of detection device. Camera-trap footage and logger data will be examined to determine the proportion of device encounters (rat recorded in immediate area around device) that result in an interaction (rat enters the device). The probability of a rat encountering a device in the first place will be examined by comparing the home range estimated by radiotracking, to the locations where the rat was identified on camera-trap footage.

Analysis of these data is ongoing but preliminary results suggest that interaction rates are positively associated with increasing familiarity with devices, and that there is very high individual variability in behaviour with regards to the devices. I anticipate submission of my thesis, and publication of my research findings from mid 2015

Lloyd Stringer

Lloyd is a PhD candidate at the University of Auckland, based at Plant & Food Research in Lincoln.

I am based at Plant & Food Research (Lincoln), where I work in the Biosecurity Group, investigating surveillance and eradication options for a variety of insect pests including ants, wasps, moths and flies. I am a doctoral candidate at the University of Auckland investigating how population management tools interact with each other and Allee thresholds. I am supervised by, A/Prof. Jacqueline Beggs (University of Auckland), Prof. D. Max Suckling (Plant & Food Research/University of Auckland), and Dr. John Kean (AgResearch).

Lloyd Stringer sampling in a vineyard.

Eradication programmes are usually expensive exercises and can be time consuming when hunting for the last few remaining invaders. However, it may not be necessary to kill every last individual as Allee effects, such as but not limited to, the inability to find mates on the landscape, may lead to further population reductions. Once a population's density is reduced to a level below a critical threshold (Allee threshold) required for positive population growth, any further population management won't be required, as the population is likely to go extinct.

To eradicate a population, one eradication tool may do the job when the infested area is small, but for larger areas, a suite of tactics used either stepwise or concurrently may be more efficient due to synergistic interactions, reducing overall cost and time taken to achieve eradication.

My PhD project will combine theoretical and experimental approaches to expand knowledge of how combinations of tactics can be best used during eradication. I will investigate the mate-finding Allee thresholds for two species: the economically damaging Queensland fruit fly (Qfly; *Bactrocera tryoni*) and *Drosophila simulans*, a cosmopolitan species, as a model for the invasive pest *D. suzukii* under various population management regimes.

Jenn Sheppard

Jenn is a PhD student at the University of Auckland, supervised by Dr. Todd Dennis. She has two external advisors, Dr. Courtney Amundson from USGS in Alaska, and Dr. Todd Arnold from the University of Minnesota. Her research is funded by New Zealand Fish and Game.

Effective management of wildlife populations requires that population demographics, including knowledge of population growth rates and the identification of critical parameters that affect population change, are understood. Furthermore, identifying critical habitats required for various stages of the annual cycle (i.e., nesting, brood rearing) is necessary to implement conservation programs. The mallard is a widely harvested game bird in New Zealand and the primary driver of game bird licence sales throughout the country, yet, information about population demographics and habitat use are lacking.

Jenn Sheppard with one of her mallard ducks.

My research aims to quantify the reproductive outputs of mallards in the Waikato and Southland Regions of New Zealand. Since June 2014, we have intensively tracked 150 radio-marked female mallards to gather information about general breeding ecology (i.e., average clutch size, duckling development rates, egg size, etc.), breeding propensity, breeding season survival of females, survival rates of nests and ducklings, and associated habitat information. To date, approximately 93% of radio-marked female mallards have initiated at least one nest attempt. Apparent survival of females, nests, and ducklings is 81%, 62% and 16%, respectively. Breeding-season survival of females is apparently low when compared to other populations worldwide, whereas nest and brood survival rates detected in this study appear to be slightly higher.

Data collection is currently on-going and will continue until January 2016. Information gathered during this study will be used to develop population models, identify sensitive vital rates, critical breeding habitat, and provide wildlife managers with sufficient information to make sound management decisions and sustainable harvest strategies.

ANNOUNCING THE 2015 NZES CONFERENCE

The 2015 conference will be held at the University of Canterbury from 16 – 19 November. We have an exciting programme planned starting with field trips and workshops on the Monday, allowing time for people to arrive in Christchurch, and a welcome reception in the evening. The formal programme will run from Tuesday to Thursday, starting with a half-day symposium on non-government conservation initiatives including a key-note address from Peter Kareiva (The Nature Conservancy). This will be followed by oral and poster presentations, with the conference dinner on the Wednesday evening. At the end of the conference there will be a writers retreat at the University of Canterbury Cass field station and possibly other longer field trips too.

Local organising committee

David Norton (UC)
Laura Young (UC)
Olivia Burge (UC)
Tammy Steeves(UC)
Ximena Nelson (UC)
Dave Kelly (UC)
Ecki Brockerhoff (SCION)
Steve Pawson (SCION)
Peter Bellingham (Landcare Research, Lincoln)
Tim Curran (Lincoln University)
Kerry South (South Events – event manager)

THE NOTICEBOARD

FORUM ON FRESHWATER MANAGEMENT & INFRASTRUCTURE

Developments are occurring in freshwater management and significant water infrastructure projects are happening around the country within the new management regimes. With the country transitioning into the National Policy Statement for Freshwater Management 2014, as well as potential Resource Management Act changes under discussion, this is a key time for all those involved in freshwater decision-making to regroup and re-assess.

For February 2015, Conferenz brings a Forum on Freshwater Management & Infrastructure—in a new format with shared plenary sessions interspersed with separate streams, providing more session choices and more networking opportunities.

Optional, separately bookable workshops are available titled:

4. Building a better business case: facilitated by Lewis Weatherall, Director, Business Case Consulting
5. Testing and assessing water quality: facilitated by Brett Stansfield, Director, Environmental Impact Assessments

See www.conferenz.co.nz/freshwater for agenda or to register.

Conferenz is pleased to offer Ecological Society members a 10% discount (not available on already reduced pricing available for local government, regional councils and Iwi Trusts) off the Forum pricing (both super saver and early-bird rates). To claim your discount, please use on-line booking code: MOSKSG. Super Saver rates close 5pm 12 December 2014.

GBIF EBBE NIELSEN PRIZE

For the past 12 years, GBIF has awarded the Ebbe Nielsen Prize to recognize outstanding contributions to biodiversity informatics while honouring the legacy of Ebbe Nielsen, one of the principal founders of GBIF, who tragically died just before it came into being.

The Science Committee, working with the Secretariat, has revamped the award for 2015 as the GBIF Ebbe Nielsen Challenge. This open incentive competition seeks to encourage innovative uses of the more than half a billion species occurrence records mobilized through GBIF's international network.

You can learn more about the Challenge on GBIF.org, and the Challenge site is now live at http://gbif.challengepost.com. We encourage anyone interested in the Challenge to create a profile and register on ChallengePost so that they receive timely alerts, updates, and other communications about the competition.

DONATE NOW! KAURI FUND FOR ECOLOGICAL SCIENCE

We invite you to help grow the science of ecology in New Zealand by contributing to the NZES Kauri Fund. This fund was established in 2001 to provide resources for initiatives that assist the development of ecology and ecologists in New Zealand. As the Fund grows, it will play an increasingly critical role in advancing the Society's goals and fund exciting new initiatives for New Zealand ecology.

Please consider a donation to the Kauri Fund, whether $10, $20 or $50, now or when you renew your subscription. You can contribute in two ways:

Send a cheque made out to: "NZES Kauri Fund" to the New Zealand Ecological Society, PO Box 5075, Papanui, Christchurch 8542.

Internet banking: credit to New Zealand Ecological Society, account 06 0729 0465881 00, identify the payment as "Kauri Fund".

ECOLOGICAL IMPACT ASSESSMENT GUIDELINES UPDATE

The draft Ecological Impact Assessment Guidelines, being prepared by the Environment Institute of Australia and New Zealand should be available for use and testing early next year. As reported in this Newsletter last year, a team of ecologists in the New Zealand Chapter of EIANZ has been preparing a set of guidelines for carrying out ecological impact assessment in New Zealand, predominantly under the Resource Management Act 1991.

The EIANZ Guidelines address all the stages in undertaking and reporting on assessment of effects in terrestrial and freshwater environments. It is intended that they will be useful to a wide range of ecologists and planners in consultancy, local and central government, research, and universities or colleges.

They also include a section on ethics and professional practice for ecologists.

NZES members have been involved in both writing and independent peer review over the last year so that people with a range of interests and expertise have been involved in preparation of the document.

The Guidelines will be available on the EIANZ web-site and it is envisaged that the Institute will review and update them annually in response to feedback and changing legislation or ecological information.

For further information please contact Judith Roper-Lindsay (Judith@roperlindsay.com).

MASTER OF WILDLIFE HEALTH AND CONSERVATION

One year full time (the program can be undertaken in part-time mode).

The Master of Wildlife Health and Conservation can be undertaken by distance education or at the Murdoch University Campus. This program is available to biologists, ecologists and environmental scientists resident in Australia or overseas. It will also be relevant for zoo-keepers and veterinary nurses who have an interest in wildlife conservation and rehabilitation, with a graduate certificate (AQF level 8) or higher qualification. The program is offered on a full-fee paying basis only.

The Master of Wildlife Health and Conservation will offer training in techniques and research methods necessary to achieve answers to the complex questions in contemporary biodiversity conservation as they relate to wildlife health and disease. Special focus will be given to understanding the need and opportunities for transdisciplinary partnerships locally, nationally and globally, and the One Health approach (the intersection of human, animal and environmental health).

The course aims to provide graduates with applied skills for wildlife health and conservation programs and includes the following units:

- One Health for Biodiversity Conservation
- Principles of Wildlife Epidemiology and Disease Risk Analysis
- Advanced Research Methods for Scientists
- Principles of Wildlife Health
- Principles of Wildlife Comparative Pathology
- Life Sciences Masters Project or Research Dissertation

Graduates will be equipped for a broad range of career opportunities delivering expertise in wildlife health and disease at the population scale, including those organisations involved in species conservation and recovery, and translocation and reintroduction programs, such as NGOs, government conservation and wildlife agencies, zoos, and other not-for-profit wildlife organisations.

Administrative queries related to this program and the application process should be directed to:

- Ann Glaskin, Postgraduate Studies in Conservation Medicine, College of Veterinary Medicine, School of Veterinary and Life Sciences, Murdoch University
  Email: wildlifeconservation@murdoch.edu.au
  Tel: (+ 61 8) 9360 2640

Academic queries regarding the course content should be directed to:

- Dr Bethany Jackson, College of Veterinary Medicine, School of Veterinary and Life Sciences, Murdoch University
  Email: B.Jackson@murdoch.edu.au

DELVE INTO THE WORLD OF BUGS AT THE OTAGO MUSEUM

Make way for the small but mighty, the misunderstood but essential, the weird and the wonderful – this summer at the Otago Museum. *Bugs: the Mega World of Minibeasts* promises to introduce visitors to the lives of these tiny, strange and special animals that make up over 80% of the world's species. The exhibition opens on Saturday 20 December and runs through 10 May 2015.

Bugs—or, as the exhibition defines them, arthropods including insects, arachnids, terrestrial crustaceans and myriapods—have developed extraordinary adaptive skills and some peculiar behaviours over the millennia, like navigating by the stars, super-strength and near-perfect camouflage. These incredible abilities underpin the exhibition. Otago Museum Curator, Natural Science Emma Burns hopes that by presenting a more complete picture of bugs as the talented and valuable animals they are, the exhibition will encourage bug appreciation.

"Bugs get a bad rap in most people's minds," says Burns. "But they are fascinating on so many levels, and are vital to our environment and economy: without bugs, there are no humans. We hope that people will leave the exhibition with a new respect for their abilities, their place in our world or their beauty."

An interactive bug gym, created in collaboration with the team at Otago Polytechnic's innovation workSpace, will give visitors a chance to see how they match up against some of the bug world's heavyweights. They can compare their strength to a dung beetle's, their silk-spinning ability to a silkworm's, and can try to jump as a high as a froghopper.

Over 800 specimens from the Museum's collection feature in the exhibition, in the form of pinned specimens and vials of bugs preserved in alcohol. A cockroach house, a dung beetle display and a huhu terrarium give visitors a chance to observe bug society. A large selection of minutely detailed macro images, as well as close-up photographs by renowned wildlife photographer Rod Morris, capture a level of detail usually hidden from the human eye, and reveal the unexpected elegance to be found in bugs.

Bugs: the Mega World of Minibeasts
Free exhibition, Otago Museum
20 December 2014–10 May 2015

UPCOMING MEETINGS

The Student Conference on Conservation Science (SCCS) is happening!

19–29 January 2015

The University of Queensland, Brisbane, Australia

Open to post-graduate students from anywhere in the world with a focus on Asia-Oceania

A unique and unforgettable experience to create lasting networks and launch your career in conservation science.

- Early bird registration 1–30 September 2014
- Full price registration 1 October 2014

Register online: www.sccs-aus.org

The Statistical Ecology and Environmental Monitoring (SEEM) 2015

Queenstown, New Zealand, from 22 - 26 June, 2015

www.maths.otago.ac.nz/SEEM2015

The conference will bring together experts in statistics, ecology and environmental sciences.

It is a privilege to have Bryan Manly as our honorary speaker, along with a world-class list of invited speakers:

- Murray Efford (NZ)
- Kerrie Mengersen (AUS)
- Shirley Pledger (NZ)
- Ken Pollock (USA)
- Andy Royle (USA)
- David Warton (AUS)

Further details about the conference, including information about Queenstown, please visit www.maths.otago.ac.nz/SEEM2015. We will continue to add details to the website with registration and abstract submission opening soon.

We hope that you will come and join us.

The SEEM2015 Local Organizing Committee

Office Holders of the New Zealand Ecological Society 2013/2014

(Effective from November 2014)

In the first instance, please send postal or e-mail correspondence to:

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SUBMISSIONS TO THE NEW ZEALAND ECOLOGICAL SOCIETY NEWSLETTER

Contributions from NZES members are sought in the form of:

- **Feature articles** on topics of interest to NZES members
- **Event announcements**, for listing on the Noticeboard
- **Conference reports**, on conferences of ecological relevance
- **Images**, for *Illustrate Ecology* on the newsletter cover
- **Ecology news from overseas**
- **Book reviews**
- **Post graduate profiles**

Feature articles can be up to 1,000 words accompanied by up to four images.

Conference reports should be around 600–800 words with up to three images.

***Illustrate Ecology* images** should be accompanied by a short title and a caption explaining the ecological concept illustrated.

Book reviews of up to 1,000 words are now published in the newsletter. If you would like to review a book of interest to NZES members, please contact the newsletter editor.

Postgraduate profiles of current or recent PhD, MSc, or Honours students should be no more than 200–300 words and include a 2-sentence blurb about yourself, a summary of your thesis written for a general scientific audience, and a photo and caption related to your research.

Please do not use complex formatting—capital letters, italics, bold, and hard returns only, no spacing between paragraphs. All photos should be emailed as high resolution (300 dpi) jpg attachments. All contributions and enquiries can be emailed to Jane Gosden, the Newsletter Editor: newsletter@nzes.org.nz

Content for the March 2015 issue of the NZES Newsletter is due by Friday 13 March 2015.

NEW ZEALAND ECOLOGICAL SOCIETY

MEMBERSHIP APPLICATION

PLEASE COMPLETE ALL SECTIONS AND EMAIL OR POST TO THE ADDRESS BELOW

A PERSONAL DETAILS

Circle Title: Prof Dr Mr Mrs Ms Miss	**Last Name:**	**First Name(s):**
Mailing Address:		**Post Code:**
E-Mail:		
Phone Bus:	**Fax Bus:**	**Phone Private:**

B MEMBERSHIP DETAILS

Occupation/Expertise:

Name of Employer:

C TYPES OF MEMBERSHIP AND SUBSCRIPTION RATES (2013)

(please tick the class for which you qualify)

Membership is open to any person interested in ecology and includes botanists, zoologists, teachers, students, soil scientists, conservation managers, amateurs and professionals

	Full	Receive journal and newsletter	$90.00* p.a.
	Unwaged Member	Is available only on application to Council for full-time students, unwaged or retired persons. Unwaged members may receive the journal but must specifically request it.	$55.00* p.a.
	Overseas Full	Receive journal and newsletter	$115.00* p.a.
	Overseas Unwaged	Is available only on application to Council for full-time students, unwaged or retired persons. Unwaged members may receive the journal but must specifically request it.	$75.00* p.a.
	Tasman Linkage	Available only to members of the Ecological Society of Australia. Tasman Linkage members may receive the journal but must specifically request it.	$55.00* p.a.

*** There is a $10 rebate for members who renew before 15 February each year and for new members**

Make cheques payable to: NZ Ecological Society
Bank account details for direct payment: 060729 0465881 00 ***(make sure your name is included)***

☐ Tick if you wish to make a donation to the Kauri Fund (see NZ Ecological Society website for details)

☐ Tick if you wish to make a donation to the Barlow Fund (see NZ Ecological Society website for details)

☐ Tick if you don't have an email address to receive the newsletter which is sent out electronically

The New Zealand Journal of Ecology is printed digitally and in hard copy. Please indicate which option you prefer. Receiving the journal digitally will allow more funds to go towards Society projects like the Kauri Fund.

Digital ☐ Hard copy ☐

Signature of Applicant: _____ Date: _____

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