NEW ZEALAND ECOLOGICAL SOCIETY

Newsletter

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FROM THE EDITOR

Spring is well and truly sprung, with kowhai in full bloom and tui loudly defending their turf. After recently moving from Christchurch to the Kapiti Coast north of Wellington, the novelty of tui in my backyard still hasn't worn off. While working in this beautiful spot has its advantages, it also has the potential to be somewhat isolated from other ecologists. So in my role as Newsletter Editor, I'm particularly enjoying hearing what NZES members are getting up to. Whether it's influencing decision makers, advancing ecological knowledge, getting involved in global ecology initiatives, or protecting native biodiversity, I'm inspired by the activities of NZ Ecologists. I hope the newsletter helps you to keep connected to NZ Ecology too.

I'd like to congratulate two of our members on their recent achievements. Firstly, Shona Myers for her appointment as INTECOL President—a first for the Southern Hemisphere and also the first woman president. Congratulations Shona! Secondly, Nick Head, who was awarded the Loder Cup—NZ's most prestigious conservation award. Well done Nick, you're a legend.

Preparations are full steam ahead for the EcoTas13 conference in Auckland, with a great line-up of plenary speakers, symposia, workshops and fieldtrips. It promises to be an exciting and eventful conference—I hope to see you in November.

ILLUSTRATE ECOLOGY

This image captures the amazing flash of gold seen when male hihi fly toward us. A male hihi (centre) pursues a female to attempt forced copulation, while she tries to evade him by fleeing to the cover o f the canopy. Illustrated by Doug Armstrong.

INSIDE:

Newsletter Editor: Debra Wotton, Moa's Ark Research, Paraparaumu. E-mail: newsletter@nzes.org.nz
Layout and design: Jeremy Rolfe

*The deadline for submissions for the next issue of this newsletter is **Friday 6 December 2013**.*

GUEST EDITORIAL

MILKING THE FUTURE

Mike Joy

International perceptions of New Zealand's environmental performance have justifiably been taking a battering lately. Irrespective of perceptions, we really are slipping badly on environmental performance and it's hard to know how much longer we can keep up the clean-green pretence. Global comparisons don't make for good reading. While it sounds good when the Yale University environmental performance indicator ranks New Zealand the 14th best performer in the world, this assessment omits our three worst impacts—biodiversity loss, water quality and non CO^2 greenhouse gas emissions. Another global environmental study from the University of Adelaide ranks New Zealand about 120th in the world, which is closer to reality as they include biodiversity loss and water quality. However, it is still conservative as (like the Yale study) it does not include non CO^2 emissions. So forget 100% anything, we have a long road to catch-up, and we need to start now.

At home New Zealanders are given a clear message: you must accept the many serious environmental impacts resulting from intensive dairy production, like-it or lump-it because dairy is the backbone of our economy. Implicit in this message is that the negative impacts on rivers, lakes and soils are inevitable, so there is no point questioning the imposition.

But, it is simply not true that environment impacts are inevitable, in fact it's the opposite—the most economically viable farms have the smallest impacts. Dairy industry pressure on New Zealanders to accept degradation of the environment, particularly waterways, is simply a subtle form of blackmail.

The biggest impact from intensive dairy farming is nutrient loss, and obviously losing valuable nutrients is not economically or environmentally viable. But it's worse because the nutrients that are leaking from the farms and polluting waterways are valuable and not replaceable. Nitrogen is produced using fossil gas, some from New Zealand but mostly from the Middle East, while phosphate is mined from fossil rock mainly in Morocco. To be sustainable, the nutrients must be cycled back into growing food and not allowed to leak out and destroy lakes and rivers, and contaminate groundwater and drinking water. If nutrients are kept on farms there is no requirement to import them from half way around the world. This is known as 'closing the nutrient loop', it is how we must go and is happening in dairy in other parts of the world.

The crucial point is that the impacts from intensive dairy reflect decades of unregulated industrialisation, each year becoming more dependent on inputs sourced off-farm, and largely offshore. The impacts on water, soil and the atmosphere come from wasteful over-intensification that has grown primarily from the absence of any cost on pollution, and the emphasis on producing the cheapest possible commodity—milk powder. The mantra for two decades at least has been: just produce more and more each year, without any real questioning of sustainably or the true costs. Looking back, what happened was totally predictable; in a market environment with no cost on externalities the most polluting industry naturally becomes dominant.

New Zealand leads the world in milk production, but few of the inputs are locally produced. To achieve this amazing level of output we also have the world's highest per-capita consumption of (mostly imported) nitrogen and phosphorous, and we import more palm kernel than any other country. In addition to the environmental impacts resulting from this industrialised process, both nitrogen and phosphate fertilisers used are non-renewable, and palm kernel is a by-product of environmentally questionable offshore palm oil production, just another cheap way to move nutrients around the world.

Thus, the three big inputs behind our impressive milk production highlight just how unsustainable the industry has become. So we are neither really clever nor efficient, rather we are simply world leading consumers of non-renewable fertiliser in order to be world leading producers of low value milk powder. There are many downsides to this because most of the external costs are borne by all New Zealanders, not by the dairy industry. Undoubtedly the dairy industry is a large contributor to GDP, but if the true costs were included dairy would be shown to be economically marginal at best.

Our geographic isolation makes it crucial for New Zealand Inc. that we are perceived overseas as different, special, safe, sustainable and clean not just for all primary producers but the tourism industry also. Unfortunately though, just one sector—dairy—has almost single-handedly jeopardised overseas perceptions of New Zealand, both environmentally and in the food safety arena. The problem for all other primary producers and the tourism industry is that they are tarred with the same brush, so we must do everything possible to get dairy sustainable and clean starting now. Instead of weakening environmental protection with RMA changes we should be strengthening it, and live up to our United Nations commitments to put a price on pollution.

ECOTAS13 CONFERENCE UPDATE

CELEBRATING ECOLOGY ON BOTH SIDES OF THE TASMAN: DIVERSITY AND OPPORTUNITY

Registrations are currently open for EcoTas13, the 5th joint conference of the New Zealand Ecological Society and Ecological Society of Australia, and we are looking forward to receiving yours. Early-bird registrations close on Friday 25 October, so register now to take advantage of these discounted rates on www.ecotas13.org.

The conference will start on Sunday 24 November with our Student Day, a number of workshops and our Welcome Reception to be held at the University of Auckland. The Student Day is exclusive to students attending the conference (both postgraduate and undergraduate) and provides an opportunity for students to get to know each other, present their work in a supportive environment and to discuss specific topics of interest. There is no extra cost for participation in this event and catering is provided. If you want to attend the Student Day, please register when you register for the conference or with Weihong Ji (j.j.weihong@massey.ac.nz) directly. If you want to present a talk on this day, please see http://ecotas13.org/student-day/ for details of submitting a separate abstract.

The conference will be running a series of workshops on technical skills and for discussion of critical topics, and these will be run on Sunday 24 November or Friday 29th November, also at the University of Auckland. Check out the details on the website under Workshops.

Thank you to the many members of both Societies who have already submitted abstracts to the main conference. We are currently putting together the programme and it promises to be one of exceptional quality and diversity of topic and approach. Look out for it on the conference website soon. Although the space available for oral presentations is now full, **we are still accepting submissions of poster and speed talk abstracts until Friday 25 October**, so there is still time to include your work in the conference.

The venue for the conference will be the Aotea Centre in central Auckland, the premier performing arts and conference centre in Auckland (http://www.aucklandconventions.co.nz/Venues/Rooms.aspx?Venue=Aotea%20Centre). This venue gives the conference the space it needs for the combined membership of the two Societies in a building of world-class design. It is also in the middle of downtown Auckland, so handy to a full suite of bars, restaurants and accommodation options for visitors. The conference has negotiated discounts for accommodation with some hotels for conference registrants (see website for details) and there is also accommodation available at O'Rorke Hall, one of the University of Auckland's student halls of residence.

Confirmed keynote speakers

- Professor David Keith (University of New South Wales) – Conservation Biology. Winner of the 2013 Australian Ecology Research Award.
- Prof Chris Thomas (University of York) – Impact of Climate Change on Ecosystems
- Prof Tom Kompas (ANU) - Natural Resource and Environmental Economics
- Prof Don Cowan (University of Pretoria) – Antarctic Ecology
- Prof Angela Gurnell (University of London) – Riparian Ecology and Restoration
- Prof Richard Duncan (University of Canberra) – Biological Invasions and Extinctions
- Assoc Prof John Ogden – Forest and Conservation Ecology
- Prof Ian Jamieson (University of Otago) – Conservation Genetics

Symposia

Confirmed symposia for the conference are:

1. Ecosystem development and retrogression on both sides of the Tasman
2. Invasive species in a changing world: theoretical and applied perspectives
3. Monitoring restored and remnant vegetation in agricultural landscapes: What ecosystem services do they provide?
4. Understanding socio-ecological systems for effective conservation.
5. The on-going evolution of predictive ecosystem-scale ecological modelling
6. Using genetic data to study ecological patterns and processes across landscape
7. New frontiers in elevated CO2 impacts on terrestrial ecosystems
8. Microbial ecology
9. Ecological management of urban landscapes: a cross-Tasman perspective

10. eResearch in ecology: a new paradigm
11. Antarctic ecology
12. The future of forests in Australasia: impact of *Phytophthora* on plant composition and ecosystem functioning
13. Functional community ecology: trait-based approaches to the paradox of community assembly
14. Insects and climate change
15. Ecosystems and economics
16. Back to fundamentals: linking Indigenous and western ecologies

Field trips

A wide range of great field trips have been organised to run on Friday 29th November or the weekend following. Many take advantage of the wonderful coastal, marine and island habitats found in the Hauraki Gulf Marine Park adjacent to Auckland. However, there are several shorter field trips for those with less time within Auckland itself. Highlights are a day trip to Hauturu (Little Barrier Island), one of New Zealand's premier wildlife sanctuaries, and a weekend at Aotea (Great Barrier Island). You'll need to be quick to sign up for these, however, as spaces are limited.

Writing retreat

Following on from the very successful writing retreat held last year after the NZES conference in Canterbury, we are also organising a retreat over the weekend (evening 29 November – 1 December) for postgraduate students and early-career researchers. More details will be posted on the conference website soon.

Social Events

The welcome reception for the conference will be in the Fale Pasifika at the University of Auckland on the evening of Sunday 24 November. This structure is built as a traditional Pacific Island fale and provides a link to the strong Pacific heritage of Auckland. On Monday evening, our posters will be highlighted at the Rice Memorial Poster Session where you'll get a chance to discuss posters with their authors over refreshments. Tuesday night we have organised a mini-seminar on 'Mouse impacts and mouse control for biodiversity restoration', which will also be open to restoration practitioners from the community. Finally, on the Wednesday night, the conference dinner will be held at the Viaduct Events Centre overlooking the Harbour.

Everything is now coming together for an excellent event to celebrate ecological progress in Australasia and to explore the similar and the different between Australian and New Zealand ecology. Don't miss it! We look forward to seeing you in Auckland in November.

Bruce Burns, Conference Co-convenor

2013 ESA 'ECOLOGY IN ACTION' PHOTO COMPETITION

The Ecological Society of Australia 'Ecology in Action' Photographic Competition is back in 2013—this time spanning the Tasman as we look forward to EcoTas13, the Society's 5th joint conference with NZES. The competition aims to highlight the diversity, beauty and interest that is the biodiversity and ecosystems of Australia and New Zealand, and the role of ecologists in unravelling their mysteries.

The first prize for the competition winner in each category this year will be $500 with additional prizes for runners-up, highly commended entries and People's Choice. The winning photographs will be announced and displayed at EcoTas13.in Auckland in November 2013 as well as on ESA's Facebook site and website. There is a choice of four categories:

1. 'Out Standing in the Field': Ecologists in Action
2. 'Kangaroos, Kiwis, Saltbush & Silver Fern: Cross-Tasman biodiversity'
3. 'Long White Clouds—Wide Brown Land: Landscapes of Australia and New Zealand'
4. 'Sharing the love: Possums and other Exchanges across the ditch'

We're hoping people will have some fun with that last category! You do not have to be an ESA or NZES member to enter and submissions close 11.59 pm, Sunday October 19. For entry form and competition information and conditions of entry visit ESA's website www.ecolsoc.org.au.

GONGS FOR NZ ECOLOGISTS

NEW ZEALAND ECOLOGIST APPOINTED INTECOL PRESIDENT

Newly appointed INTECOL President Shona Myers (second from right), pictured with members of the INTECOL Board in London, August 2013.

NZ Ecological Society Secretary Shona Myers was appointed as the new President of INTECOL (International Association of Ecology) at the recent INTECOL13 conference in London. Not only is Shona the first woman in this role, she is also the first INTECOL president from the southern hemisphere. Congratulations to Shona for this fantastic achievement. Shona will be well known to many NZ ecologists, both through her work at Auckland Regional Council, Wildlands and DOC, and her contribution to the NZES. Shona has served as both Secretary and President of the NZ Ecological Society. We wish her well in her new role.

NZES MEMBER AWARDED LODER CUP

Conservation Minister Dr Nick Smith recently presented the country's most prestigious conservation award, the Loder Cup, to Christchurch botanist and NZ Ecological Society member Nicholas Head.

"Nick Head is a very deserving winner of the country's oldest conservation award. He has been a tireless advocate for Canterbury's unique plant life, both through his professional work with the Department of Conservation and as a volunteer and advocate for numerous trusts and organisations," Dr Smith says.

"His contribution has included extensive work in plant identification, guided field trips, public talks and advocacy for conservation before councils and the Environment Court. A particular benefactor of his work has been the unique plant life of the limestone areas of South Canterbury and the spectacular Mackenzie Basin."

Christchurch botanist Nick Nead, 2013 recipient of the Loder Cup, and Conservation Minister Nick Smith.

Nick was nominated by the Canterbury Aoraki Conservation Board, with supporting letters from Forest and Bird, Environment Canterbury, DOC, Landcare Research, and the QEII National Trust.

The Loder Cup was donated by Gerald Loder in 1926 to encourage and honour New Zealanders who work to investigate, promote, retain, and cherish New Zealand's indigenous flora.

ARTICLES

NZ JOURNAL OF ECOLOGY LAUNCHES MENTORING SCHEME FOR NEW REVIEWERS

Ellen Cieraad, Tim Curran and Jo Monks

In the latest issue of the *New Zealand Journal of Ecology,* a trial of a mentoring scheme for new reviewers was announced[1]. It is an exciting initiative for both early-career ecologists and the whole ecological community.

Peer review is essential to quality-controlled science; however, it relies on the voluntary commitment of scientists who have many other obligations. It is getting increasingly hard to find suitable reviewers to critically evaluate ecology manuscripts in a timely manner.

One pool of potential reviewers has remained largely untouched: early-career researchers! In the last ten years, PhD enrolments in New Zealand have almost doubled[2], however few of these students will have reviewed a scientific paper by the time they have submitted their thesis[3]. The experience of reviewing provides many benefits to an early-career

1 Curran et al. 2013

2 Doctoral enrolments in New Zealand increased from 4263 in 2003 to 8470 in 2012 (source: http://www.educationcounts.govt.nz; also see Massaro et al. 2012)

3 Zimmerman et al. 2011

researcher. For example, it provides insight into the publication process, improves critical thinking skills, and exposes them to cutting-edge science in their field. With a bit of mentoring, these early-career researchers can quickly help ease the stress on an overworked peer review system.

Although there have been various calls to better involve early-career reviewers[4] in the peer review process, to our knowledge, ***the New Zealand Journal of Ecology is one of the first ecological journals to implement such a scheme***!

How does it work? You can sign up as an early-career reviewer, as a mentor, or as a team. If signed up individually, early-career ecologists will be paired with an established scientist (mentor) based on the topics of expertise. When a relevant manuscript is received by the NZJE, the early-career researcher and their mentor would each review the paper separately, discuss it and then submit a joint review. This will build the reviewing experience and confidence of the new reviewer, while the mentor ensures that the review is of high quality.

One advantage of the creation of such a database is that we can also incorporate other untapped pools of reviewers! Every year many post-docs and other researchers who have publishing and reviewing experience come to work in New Zealand, but they may not be well-known to the New Zealand ecological community. We strongly encourage such experienced reviewers to sign-up (obviously they wouldn't need a mentor to do reviews). The exposure of the scheme overseas will also raise awareness of the NZJE to the global ecological community.

So sign up!

To sign up individually or as a team, please fill out the form in the following file NZJE_MentorReviewingScheme_Signup.xlsx, save it to your computer and send it as an attachment to mentor.nzje@gmail.com. For users of Open Office or an old Excel version, a more user-friendly format of the file is also available on the website below.

For more information about this mentoring scheme for new reviewers, please visit http://www.newzealandecology.org/nzje/mentor/

INTERNATIONAL NETWORK OF NEXT-GENERATION ECOLOGISTS (INNGE)

NZES early career ecologists wanted as INNGE student representatives

Ellen Cieraad and Tim Curran

The International Network of Next-Generation Ecologists (INNGE, pronounced 'in-jee') had its official kick-off at the recent INTECOL conference in London. The network's aim is to better connect early-career ecologists around the world and to create opportunities for early-career ecologists that are not bounded by institutional or geographic boundaries.

INNGE has expanded tremendously over the last year, with a significant boost at INTECOL (see below). The network consists of institutional members (ecological societies from around the world) and individual ecologists who can get involved in with the initiatives organised by and for ecologists in the network.

The New Zealand Ecological Society is now an institutional member of INNGE. This means that the NZES can help determine the path of and initiatives organised by INNGE. Each society should have at least 3 representatives, including at least one current student. So far, Ellen Cieraad (researcher at Landcare Research) and Tim Curran (lecturer at Lincoln University) have been the NZES representatives, but we are looking for student member(s) to join the team to represent New Zealand in this global early-career ecologist network. If you are interested, please contact Ellen at cieraade@landcareresearch.co.nz.

If you are keen to be involved there are plenty of other ways you can contribute, including signing up to the INNGE newsletter and/or discussion mailing list, writing a guest blog post about an issue that is important to you, talking to people to spread the word about the network, or organising a local early-career event.

We hope that through the INNGE network, local societies around the world will become more aware of topics relevant to early-career ecologists, and help organise local initiatives, with or without the guidance from INNGE. These experiences and resources can then be shared on the INNGE website, which will increase the relevant resources available to early career ecologists, provide helpful tips when similar events are organised elsewhere, and increase the global connection between ecologists.

The NZES has a long history of contributing to early-career ecologists' needs, mostly by providing financial support for student days and prizes in association with the annual conference. Recently, the society has been involved in more and more initiatives, such as the Kauri seed scholarships for undergraduate students, a writer's workshop and retreat, and the recently launched mentoring scheme for new peer-reviewers.

Since INNGE's inception almost 3 years ago, INTECOL in London was the first physical meeting of the network. The INNGE events were a great success. All the workshops were very well attended, a testament to the relevance to early-career ecologists of the discussion topics, such as: getting better connected (e.g. via twitter and blogging), more effective data visualisation, open science, and different career options for ecologists. The INNGE social evening included a trip to an old English pub by cable car over the Thames. There were lunch time events in the alternative

4 Hochberg et al. 2009; Donaldson et al. 2010; Lepczyk & Donnelly 2011; Zimmerman et al. 2011

presentation style Pechakucha (20 slides of 20 seconds each), where people from all over the world presented their most important outstanding question in ecology, a paper that changed their (scientific) view of the world, an overview of early-career initiatives by different member societies (including the British, American, Australian and Argentinian Ecological Societies), and suggestions on how INNGE can help the ecological community. The Pechakucha style resulted in high-paced, high-quality, image-rich and very creative and original talks that people will talk about for a long time.

Overall, INTECOL was a great success for INNGE. Not only has it created a lot of excitement amongst early-career ecologists, junior AND senior ecologists from all over the world and from a wide range of disciplines are showing their interest and support. Watch this space for new initiatives and events!

If you want to be involved, sign up through the links above or contact Ellen at cieraade@landcareresearch.co.nz for more information.

APPEAL FOR A WISE POLITICAL RESPONSE TO OUR DETERIORATING WORLD

Sir Alan Mark

A group of more than 100 celebrated and widely respected New Zealanders recently launched an appeal to all New Zealand politicians and political parties to design robust cross-party strategies and policies to avert several major risks and give future generations the best chance of security, peace social justice and opportunity for all. They are seeking a risk assessment for New Zealand in our deteriorating world. The campaign was launched in Dunedin on March 8, with two meetings and 11 speakers from around the country, covering the five main areas of concern. This appeal should interest all Ecological Society members. The appeal's website www.wiseresponse.org.nz outlines the issues and highlights some of the media coverage to date, as well as providing an opportunity to register support for the campaign and express your concerns. Since the launch, the leader of this appeal, Sir Alan Mark, Emeritus Professor, Department of Botany, University of Otago, and celebrated for his involvement with many organisations and several conservation issues, has addressed meetings around the country from Auckland to Invercargill, with more to come, to promote the five main objectives of this appeal:

1. **Economic Security. The risk of a sudden, deepening or prolonged financial crisis.** Such a crisis could adversely impact upon our society's ability to provide for the essentials, including local access resources, reliable supply chains and a resilient future.
2. **Energy and Climate security. The risk of continuing our heavy dependence on fossil fuels.** Progressively restricting their extraction, importation and use could promote a switch to genuine renewable energy, and encourage smarter use of existing energy and energy systems while creating better public transportation. Such responses would simultaneously lower green house gas emissions.
3. **Business Continuity. The risk exposure of all New Zealand business, including farming, to a lower carbon economy**. To mitigate this risk all businesses could explore both market and job opportunities in reducing the human ecological footprint, finding substitutes for petroleum-based goods and services, increasing efficiencies and reducing waste in food and resources. This would position New Zealand as a market leader in low carbon technologies and living arrangements.
4. **Ecological/Environmental Security. The risks associated will failing to genuinely protect both land-based and marine ecosystems and their natural processes.** The signatories believe that such protection is essential for both the maintenance of critical ecosystem services, indigenous biodiversity and ultimately all human welfare.
5. **Genuine well-being. The risk of persisting with a subsidised, debt-based economy, preoccupied with maximising consumption and GDP.** An alternative is to measure progress by means of indicators of community sustainability, human well-being, more equitable wealth sharing and environmental resilience, to incorporate full-cost pricing of harmful environmental impacts.

ESTUARIES FALL BETWEEN THE CRACKS: RESEARCH AND MANAGEMENT GAP IDENTIFIED

NZFSS and NZMSS

A combined meeting of the New Zealand Freshwater Sciences Society (NZFSS) and the New Zealand Marine Sciences Society (NZMSS) held in Hamilton in August identified a critical gap relating to research and management of estuaries. NZFSS and NZMSS are professional bodies that support science for management of New Zealand's freshwater, coastal and deep ocean systems. The theme of the conference was "Aquatic Science at the Interface" and the opening plenary speaker, Dr Clive Howard-Williams, Chief Scientist of Freshwater and Estuaries at NIWA, set the scene with a focus on New Zealand's 300 estuaries which lie at the interface of rivers and lakes with the sea.

Estuaries are important: they are nurseries for fish, they filter out contaminants and are a 'hot spot' for wildlife and ecosystem services. Estuaries also lie at a critical point between land and sea where growing pressures from urbanisation, intensive lowland agriculture and rising sea levels collectively impact on their health and well-being. Examples include Tauranga and Porirua harbours which are adjacent to large population centres, and the New River Estuary in Southland which is being degraded by sediments and nutrients from agricultural sources.

Dr Howard-Williams pointed to the major effects of excessive levels of nutrients and to estuary health generally. He also identified a key gap in knowledge about how estuaries function. This is partly because scientists have tended to specialise into freshwater or marine systems rather than both. Insufficient attention has been paid to link research into estuarine management. This link has become more critical as contentious issues arise such as mangrove management, opening of coastal lakes, and excessive sedimentation.

Delegates at the conference reinforced just how important estuarine management will become as the national Freshwater Reforms are developed. A key tenet of the Freshwater Reforms is to implement a limits-based approach for contaminants, known as the National Objectives Framework. Managing to limits may be extremely difficult to achieve in estuaries, which have traditionally acted as a sink for excessive levels of contamination arising from multiple inputs, sometimes across several catchments. Members of the two societies continually emphasised the need for a fully integrated approach to managing estuarine health, involving improved agricultural practice and better management of urban stormwater and wastewater, underpinned by inter-disciplinary research across the freshwater-marine space.

Estuaries across the globe are also particularly vulnerable to invasive species because they are often the first point where trans-ocean ships dock. Plenary speaker Lindsay Chadderton, from The Nature Conservancy of the Great Lakes in the United States, described his seven years of experience in trying to limit the spread of invasive freshwater mussels and fish such as Asiatic carp, into the Great Lakes region. Economic costs from these invasions run to hundreds of millions of dollars a year and eradication of the most environmentally damaging invaders looks to be impossible given the extent of spread of these species and the ease of new incursions or re-introductions. There are important biosecurity lessons here for New Zealand in terms of surveillance and early, pro-active management of invaders to avoid much more costly controls after there has been extensive environmental damage.

The two societies consider that, without urgent action, estuary health will be at severe risk from accelerated eutrophication, sedimentation and invasive species. The societies recommend that:

1. Research be better coordinated among freshwater and marine scientists so that estuaries do not "fall between the cracks".
   - Critical research areas relate to the sustainability of fish habitat, seagrasses and shellfish, as well as aquaculture in estuaries.
   - Estuary research needs to be included as a theme within at least one of the Ten Science Challenges.
2. Radical improvements be made to reduce sediment and nutrient loads to estuaries, particularly from areas of intensive lowland agriculture but also from urban areas.
3. The government speed up the implementation of a National Objectives Framework for freshwater management, and adopt all of the recommendations arising from the third report of the Land & Water Forum,
4. Estuaries be included in the National Objectives Framework.
5. Improved and comprehensive biosecurity plans are made as soon as possible so that procedures for detection, control and eradication of invasive species in estuaries are well established.

Last year NZFSS issued a statement about the perilous state of freshwaters of New Zealand and the need to implement limits-based management. This year both NZFSS and NZMSS are urging the government to act with decisiveness and urgency so that New Zealand's international environmental reputation is not eroded by the state of its estuarine ecosystems.

JS WATSON TRUST GRANTS AWARDED

Mary McEwen, NZES Representative, JS Watson Trust assessment committee

At a recent meeting at Forest and Bird's head office, Wellington, the selection panel for the J S Watson Trust agreed to fund the following projects:

- Chris Baillie: The Orokonui Ecosanctuary permanent plot remeasurement $4,000;
- Megan Friesen: The sensory adaptations of seabirds $4,000;
- Bethany Jackson: Health and disease in kakariki on Tiritiri Matangi $3,600;
- Andrew Jeffs: Restoration of mussel beds to the Hauraki Gulf $1,000;
- Letitia McRitchie: Halfmoon Bay habitat restoration – deer control $3,441;
- Luis Ortiz-Catedral: The metapopulation approach to conserve orange-fronted parakeets $4,000;
- Catherine Peters: Behavioural ecology and conservaton of bottlenow dolphin $1,404.18;
- Clio Reid: Understanding attacks by kea on sheep $4,000;
- Rachael Sagar: Transfer stress and success and foraging ecology of the mottled petrel $4,000;
- Ellen Schoener: Do translocations for species restoration cause pathogen pollution $4,000;
- Katie Sheridan: Are fenced forest sanctuaries unappreciated conservation sites for endangered brown teal $2,000.

CONFERENCE REPORT

INTECOL 2013

Shona Myers

The 11th Intecol Congress (International Congress of Ecology) was held in London from 18-23 August 2013. A small number of kiwis had made the trip across the world to attend the conference. London was in the middle of a late summer heat wave and we were in for a treat of both ecology and London with sun! The theme of the congress advancing ecology and making it count was organized by British Ecological Society and Intecol (International Association for Ecology), and included the 100-year celebrations for British Ecological Society.

The wider aim of the conference was to present world class ecological science, taking ecology into the next 100 years. Symposium topics ranged from global change and ecosystem ecology, to new insights and new methods in ecology and evolution; to light pollution in an urbanized world; to conservation management and policy; to biological invasions; to island biocultural diversity and traditional ecological knowledge. There were up to 16 concurrent sessions at one time to choose from, and over 500 poster presentations. I felt that I only brushed the surface of the ecological science presented.

Inspirational plenary speakers included Prof Sandra Diaz on plant functional trait diversity, their interactions with global change drivers and their effects on ecosystem properties, putting it in the context for early botanists including Darwin and Ancient Greece. Prof Ove Hoegh-Guldberg spoke on the state of the ecology of coral reefs and how to capture the human heart to make a difference including virtual reef tours. Prof Nancy Grimm gave a wonderful talk with practical applications about restoring resilient urban water systems. Dr Boije Fu from China spoke about the greening of rural parts of China and extensive ecological restoration to combat erosion. Prof Martin Nowak and Prof Tim Clutton-Brock presented fascinating opposing theories on eu-sociality in insects and reproductive cooperation in vertebrates. Sir Robert May gave a wonderful talk during one of the concurrent sessions on his role as Chief Science Advisor to the UK Government. Questions for plenary speakers were submitted through Twitter, a test for those of us over 40–50ish…

New Zealand Ecological Society Councillor Ellen Cieraad and Secretary Shona Myers at the 11th Intecol Congress in London.

INNGE (International Network of Next-generation Ecologists) had a significant presence at the congress with daily workshops and a presentation day at the beginning of the conference. The influence of NZ and Australia in supporting young ecologists to attend and participate in the Brisbane Intecol conference played an important part in getting this network going.

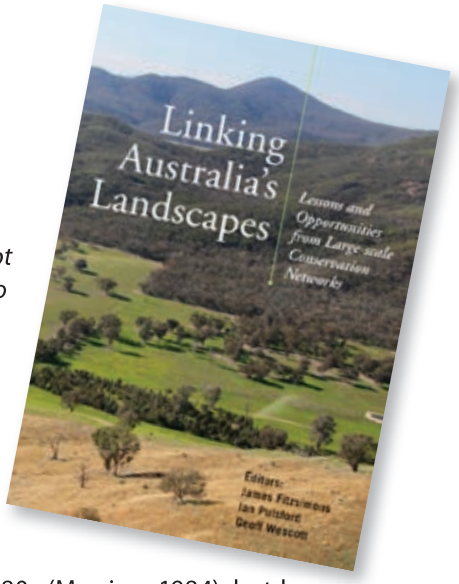
Highlights on the social calendar included a London pub mix and mingle night, the daily morning and afternoon tea breaks, and the 100 year celebration of the British Ecological Society at Old Billingsgate, beside the Thames with stunning views to the Tower Bridge at night. This was a big party! A London band played loud and there were many ecologists on the dance floor! It is good to know that ecologists anywhere in the world are good at organizing a party with dancing.

A significant highlight for me was being part of the Board of Intecol, being voted in as the next president; and being welcomed into a co-operative supportive network of ecologists from around the world. The next 12th Intecol Congress will be in Beijing in 2017, and I plan to be there!

BOOK REVIEW

Linking Australia's Landscapes – Lessons and Opportunities from Large-scale Conservation Networks

Reviewed by Olivia Burge, University of Canterbury



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'Time is short as we try to slow the juggernaut of biotic impoverishment. We cannot waste time trying things that others have tried and found wanting. But we cannot do otherwise unless we all document our failures as well as our successes.'

So said Redford and Taber in the December editorial of Conservation Biology in 2000 (Redford and Taber 2000, p 1568). Yet competition for funding creates a perverse incentive not to discuss failures, given the predominant currency is past successes of applicants (Redford and Taber 2000). *Linking Australia's Landscapes* covers the successes and failures encountered in establishing and maintaining large-scale conservation initiatives by documenting 14 case studies.

The concept of "landscape connectivity" has been developed since the 1980s (Merriam 1984), but has become topical (Doerr et al. 2011) since responses to climate change have been debated. The announcement in 2012 of the Australian National Wildlife Corridors Plan ((DSEWPC 2012), "the Corridors Plan"), a national framework aimed at establishing and maintaining connectivity at a landscape scale is the most recent and significant development. The Government's position, as espoused in the Corridors plan, is that corridors "are one of the most effective tools available for conserving biodiversity and preparing landscapes for climate change" (DSEWPC 2012, p 5). *Linking Australia's Landscapes* notes there is a gap between theoretical work on connectivity and the realities of improving connectivity across multi-tenured land which it aims to address.

The book is divided into five sections beginning with a scene setting section, which helpfully defines terminology used in the book from other common interpretation overseas. As an early level non-Australian PhD student, with some background in resource management, I found it curious that the policy overview section of the book was left until the third section of the book, preceded by the case studies. Policy informs and regulates the initiatives discussed as case studies, and it would be more useful to have it up front. Fourteen case studies are included, ordered geographically from east to west. A similar structure (history, major achievements, lessons learnt) is followed for each case study, which improves their coherency.

The book places itself squarely on the practical side of connectivity conservation: its self-professed aim is to canvas a subset of the connectivity conservation initiatives in Australia and analyse whether there are critical common lessons among them. Certainly, having such in-depth and accessible background on the major landscape level projects makes this work a valuable resource for environmental practitioners in Australia, particularly with its forthright treatment of failures in each chapter. However, the major shortcoming of the work is the synthesis section at the end, comprising one short chapter (10 pages, in a 300 page book). Instead of the bare cross references to case studies the book provides, discussing the common themes with greater reference to their factual context would have provided more utility to readers. 'Best practice' solutions to common issues could have been highlighted and discussed more extensively in this chapter to maximise the practical applicability of the lessons learnt.

Hence while there are undoubtedly useful lessons to be taken from the case studies—particularly in terms of starting small, building stakeholder relationships—the lessons of interest to ecologists could have been brought out more clearly. There can be tension between what might be best at a local scale (e.g. restoration of vulnerable but promising 'anchor' areas) versus that which is favoured at a regional scale (e.g. paper protection of larger less threatened areas). This is illustrated by the fact many of the case studies acquire degraded land and restore it, while modelling work at a national scale promotes protecting and managing existing vegetation. Areas falling under the new National Wildlife Corridors Plan may qualify for priority funding; however recent work (Maggini et al. 2013) suggests that with a budget of $3 billion (significantly more than the scope of the projects discussed in the book) the majority of it should be spent on protecting intact habitat, rather than restoration. It is unclear how this will affect initiatives to protect and conserve multi-tenured land.

Aesthetically, the book is let down by its use of diagrams that do not appear to have been designed with a black and white colour scheme in mind. Not entirely surprisingly for a book on connectivity, the areas shown on maps are small: but creating four shades of grey to distinguish between different tenures (figures 4.1; 6.1), or worse, different vegetation types (figure 14.1), renders a detailed examination of the figures at best frustrating. This could have been ameliorated to an extent by ordering the monotone gradient to correspond with some measure of biodiversity value, for example (as with figure 22.2 which most clearly discriminates between 'non-native' and 'cleared' vegetation, leaving 'native' and 'other' fairly indistinguishable). Not all the figures in the book suffer from this, but a more involved approach by the editors could have addressed this issue pre-publication.

Of particular interest to New Zealand readers will be the section of a landscape-level initiative in New Zealand – "Reconnecting Natural Northland". It forms an interesting counterpoint to other case studies, as funding was provided before a suitable target region was settled upon. Given the recent establishment of this project, the site selection process forms the majority of the chapter. Having money and trying to find an area in which to spend it makes for an interesting and novel read.

An often underestimated aspect of conservation promotion for ecologists is dealing with actors and groups with different priorities to the NGOs and beneficent landowners who drive conservation efforts. The importance of this is referred to in the case studies, but more insightful are the chapters on the topic in section 4, "Broad Themes". These are well-written, interesting, and of wider application than the Australian audience.

Overall, *Linking Australia's Landscapes* is a useful book that achieves its aim of documenting the valuable work conservation initiatives in Australia do, the difficulties they face and the lessons they have learnt. It provides an interesting insight into the New Zealand experience and the social aspects of conservation. Policy amendments may change the landscape in which these initiatives operate, but the key issues—funding, project scope, and landowner buy-in—are likely to persist, making the lessons enduring.

NEWS FROM COUNCIL

NZES AGM NOTICE

The New Zealand Ecological Society Annual General Meeting (AGM) will be held during the EcoTas13 Conference from 11.45 am – 1.15 pm on Tuesday 26 November 2013, at the Aotea Centre, Auckland.

Election of Officers

The following Council positions will be up for election at the NZ Ecological Society AGM in November:

- President
- Vice President
- Secretary
- Treasurer
- Councillors (4)

With the current NZES President's term coming to an end, the Vice President moving to Australia and the Secretary recently appointed as INTECOL President, members are encouraged to get involved in the NZES Council. If you are interested in running for any of the above positions, please don't hesitate to contact either the NZES President Mel Galbraith mgalbraith@unitec.ac.nz, or a current council member to find out more about what's involved.

References

Doerr, V. A. J., T. Barrett, and E. D. Doerr. 2011. Connectivity, dispersal behaviour and conservation under climate change: a response to Hodgson et al. Journal of Applied Ecology **48**:143-147.

DSEWPC. 2012. National Wildlife Corridors Plan: A framework for landscape-scale conservation.*in* E. Department of Sustainability, Water, Population and Communities, editor., Canberra.

Maggini, R., H. Kujala, M. Taylor, J. Lee, H. Possingham, B. Wintle, and R. Fuller. 2013. Protecting and restoring habitat to help Australia's threatened species adapt to climate change. National Climate Change Adaptation Research Facility, Gold Coast.

Merriam, G. 1984. Connectivity: a fundamental ecological characteristic of landscape pattern. Proceedings of the International Association for Landscape Ecology **1**:5-15.

Redford, K. H. and A. Taber. 2000. Writing the Wrongs: Developing a Safe-Fail Culture in Conservation. Conservation Biology **14**:1567-1568.

POSTGRAD PROFILES

Marie Brown, University of Waikato

Marie Brown has just submitted her PhD for marking at the University of Waikato. Her research focussed on evaluating the use of ecological compensation in New Zealand.

Ecological compensation (also called offsets and mitigation etc) is a widely used policy tool in New Zealand, where a positive conservation activity is required as part of a resource consent. The intention of these activities is to counter balance the adverse effects of the activity: but what are they, do they get done and what do we think of the use of the concept?

Marie Brown in Southland, undertaking field work on regulatory compliance with mitigation requirements under the RMA

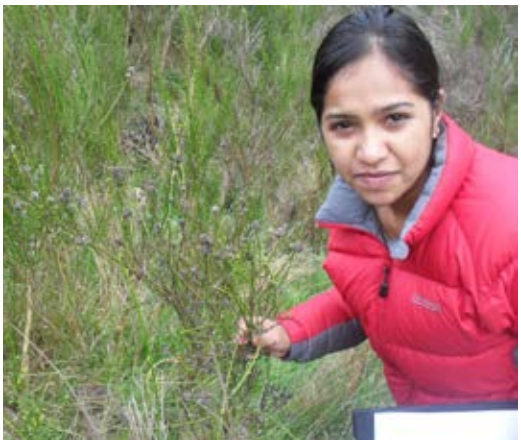
These are the questions that formed the basis of a multi-disciplinary PhD by publication under Professors Bruce Clarkson and Barry Barton at the University of Waikato. A nationwide road-trip saw me investigate 110 cases of ecological compensation under the RMA, spread all throughout New Zealand. I wanted to take a systematic and empirical approach and gather some really strong data about implementation. In doing so, I found that about one third of requirements are not met, and my research went on to raise concerns about the nature of exchanges in the first place.

A programme of 116 interviews with stakeholders kept me very busy through part of the PhD as well. Overall, it would seem that although ecological compensation is seen as a positive opportunity to get better outcomes for the environment in development, most people seem pretty worried about poor implementation. We need to do a better job of administering and securing these exchanges, to ensure we're not putting our species and ecosystems in jeopardy at the expense of development. We could also better direct the benefits of ecological compensation so that they can contribute to broader conservation goals - there's plenty of work to do!

I'm pleased that all three papers from my PhD are now accepted for publishing (one in NZJE!) and my thesis has been sent off to the markers. I am now working as the Senior Policy Analyst for the Environmental Defence Society of New Zealand, researching the management of biodiversity in New Zealand!

Varsha Mala, University of Auckland

Varsha is undertaking a Masters in Biosecurity and Conservation at the University of Auckland. She has a passion for the environment and loves working for the benefit of the environment.



Varsha Mala working with broom in the field in Christchurch.

Scotch Broom (*Cytisus scoparius*) is a deciduous shrub, with green stems, small alternate leaves and conspicuous yellow flowers. The species has been widely introduced and is a major invasive weed in New Zealand, Australia and USA. Broom has a broad environmental niche and grows in New Zealand in a wide range of conditions constrained only by an association with moderate soil phosphorus levels. This species is now affecting agriculture, plantation forestry, railway lines maintenance and conservation areas and is a priority for biological control. The broom gall mite Eriophyidae (*Aceria genistae* Nalepa) was released in 2008 as one of several biological control agents for broom. These mites cause death of the plants by forming "cancer"-like stem-galls. However, there are other predatory mites on broom and bacteria and fungi appear to be associated within the galls. This species complex could potentially facilitate or moderate the effect of the gall mites as a biocontrol agent. The major predatory mites found on broom are Phytoseiidae (*Typhlodromus caudiglan* Schuster), and Stigmaeidae (*Zetzellia māori* González-Rodríguez). Two other prominent fungivorous groups abundant on broom are Tydeidae (*Tydeus lambi* Baker) and *Tarsonemus* sp. (Tarsonemidae). A manipulative experiment was set up to determine the impact of the broom gall mite *Aceria genistae* on its host plant Scotch broom and to investigate the effects of manipulating relevant predators, competitors and pathogens associated with *A. genistae*. This was achieved using different pesticides and fungicides. The experiment was set up at Leslie Hills Station, North Canterbury (42°38'20.10"S, 172°46'49.62"E). Pre-treatment analysis of broom plant biomass showed no significant difference between treatments, whereas post treatments results showed significant patterns over the first five months of data collection. Post treatments results showed greater mortality was evident in plants with specific manipulations example where all predators and fungivorous were removed and *Aceria genistae* are significantly reducing Scotch broom population. Further exploration is needed to measure the success of the experiment.

THE NOTICEBOARD

NZES CONFERENCE STUDENT TRAVEL GRANTS

Grant description

Travel grants can be used towards the costs of attending the New Zealand Ecological Society annual conference (and associated field trip) fees, travel to and from the conference venue, accommodation, and meals during the course of the conference. The amount of grant awarded to any one individual (to a maximum of NZ$400) will be based on the likely relative travel costs of all applicants. Up to eight travel grants may be awarded each year.

Criteria for eligibility

- All applicants must be a postgraduate student currently enrolled at a tertiary educational institute, or been enrolled at a tertiary educational institute in the last six months prior to the date of the conference.
- All applicants must have applied to present at either the student day or main conference (poster or oral) OR be involved in the organisation or running of the conference (including the student day and field trips).
- Applicants must not have accepted an NZES student travel grant in the last two years.
- Membership of NZES is not required

Please submit your completed application form along with required documentation to: wilsond@landcareresearch.co.nz by **September 30th 2013**.

Forms to download

Eligibility and application requirements for student travel grants.pdf
Student Travel Grant Application Form 2013.doc

NATIONAL WETLAND SYMPOSIUM, 12–14 FEB 2014, AUCKLAND

The 6th National Wetland Restoration symposium will be held in Auckland this summer. A range of field trips will take you to the four corners of the region, and the conference dinner at the Zoo will be a night to remember.

The theme, 'Water and Wetlands: from Drought to Storms', reflects some extreme weather we have been experiencing, and is an opportunity to share ideas on how to cope as wetland managers, or learn how our wetlands can help manage water quality and quantity and biodiversity in the face of climate and weather extremes.

Key note speakers will include New Zealander of the Year, Dame Anne Salmond, and local expert on wetlands and carbon, Dr. Dave Campbell. A focus on stormwater management systems is an opportunity to learn more about how managing water can also be an opportunity to create and enhance wetlands. There will also be practical training sessions on weed identification and management.

A call for papers has been released, see www.wetlandtrust.org.nz for details. Abstracts are due before **30 September 2013**. Registrations will be open soon. As usual, there will be discounted fees for community volunteers and landowners.

Many thanks to our key sponsors: Auckland Council, Department of Conservation, Unitec Auckland, Landcare Research, NIWA, and Northland Regional Council. Contact us if you would like to be a sponsor or exhibitor. Karen.denyer@wetlandtrust.org.nz

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".

UPCOMING MEETINGS

Conservation Incorporated Conference
What's ahead for community-based conservation in NZ?
Hosted by the Yellow-eyed Penguin Trust
17–18 October 2013
Dunedin
http://www.yellow-eyedpenguin.org.nz/conservationinc

2013 Australasian Wildlife Management Conference
Advances in reintroduction of Australasian fauna 1993–2013
20–22 November 2013
Massey University, Palmerston North
www.awms.org.au/conference

EcoTas13: Joint NZES & ESA Conference
24–29 November 2013
The Aotea Centre, Auckland
Earlybird registration deadline: 25 October 2013
http://ecotas13.org/

9th Pacific Islands Conference on Nature Conservation & Protected Areas
2–6 December 2013
University of the South Pacific
Suva, Fiji
Registration closes 31 August 2013
http://www.sprep.org/pacificnatureconference

Australasian Ornithological Conference
4–7 December 2013
Auckland
Abstract deadline: 1 June 2013
Registration opens: 1 May 2013
aoc2013@unitec.ac.nz

National Wetland Symposium
Water and Wetlands: from Drought to Storms
12–14 Feb 2014
Auckland
www.wetlandtrust.org.nz

16th Australasian Vertebrate Pest Conference
26–29 May 2014
Brisbane, Queensland, Australia
http://www.avpc.net.au/

Island Biology 2014
7–11 July 2014
Hawaii, USA
Abstract deadline: 31 January 2014
https://sites.google.com/a/hawaii.edu/islandbiology2014/
To receive announcements email island.biology@gmail.com

Office Holders of the New Zealand Ecological Society 2012/2013

(Effective from 27 November 2012)

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

Secretariat (society office – Susan Sheppard)
NZ Ecological Society Secretariat
PO Box 5075
Papanui
CHRISTCHURCH 8542
Physical Address:
46 Genesis Drive
Edendale, RD 1
CHRISTCHURCH 7671
P: 64 3 318 1056
F: 64 3 318 1061
E: nzecosoc@paradise.net.nz
W: www.nzes.org.nz

President
Mel Galbraith
School of Natural Sciences
Unitec New Zealand
Private Bag 92025,
Carrington Road, Mt Albert
AUCKLAND
P: 64 9 815 4321 ex 7296
M: 64 25 694 8139
E: mgalbraith@unitec.ac.nz

Vice President & Submissions Officer
Fleur Maseyk
University of Queensland
BRISBANE, AUSTRALIA
E: fleur@thecatalystgroup.co.nz

Secretary
Shona Myers
Department of Conservation
PO Box 10-420
WELLINGTON 6143
M: 64 21 325 272
E: shona.myers@vodafone.co.nz

Treasurer
Clayson Howell
Department of Conservation
PO Box 10-420,
WELLINGTON 6143
P: 64 4 471 3113
M: 021 973 181
E: chowell@doc.govt.nz

Councillors (4)
Laura Young
School of Biological Sciences
University of Canterbury
Private Bag 4800
CHRISTCHURCH
P: 64 3 364 2987 ext. 7048
M: 64 21 668 084
E: laura.young@canterbury.ac.nz

Ellen Cieraad
Landcare Research
PO Box 40
LINCOLN 7640
P: 64 3 321 9827
E: cieraade@landcareresearch.co.nz

George Perry (Awards Convenor)
School of Environment & School of Biological Sciences
University of Auckland
Private Bag 92019
AUCKLAND
E: george.perry@auckland.ac.nz

Deb Wilson
Landcare Research
Private Bag 1930
Dunedin 9054
P: 64 3 470 7212
E: wilsond@landcareresearch.co.nz

Journal scientific editor
Jo Monks
Department of Conservation
Private Bag 4715
Christchurch Mail Centre
Christchurch
P: 64 3 371 3746
E: jmonks@doc.govt.nz

Journal technical editors
Anne Austin
Landcare Research
Private Bag 11052
Manawatu Mail Centre
PALMERSTON NORTH 4442
E: techeditor@nzes.org.nz
E: austina@landcareresearch.co.nz

with assistance from:
Christine Bezar
Landcare Research
PO Box 69
LINCOLN 7640

Newsletter editor
Debra Wotton
Moa's Ark Research
14 Tui Road
Raumati Beach
PARAPARAUMU 5032
E: newsletter@nzes.org.nz

Webmaster
Laura Young
School of Biological Sciences
University of Canterbury
Private Bag 4800
CHRISTCHURCH
P: 64 3 364 2987 ex 7048
M: 64 21 668 084
E: laura.young@nzes.org.nz

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 images should be emailed as high resolution (300 dpi) jpg files. All contributions and enquiries can be emailed to Debra Wotton, the Newsletter Editor: newsletter@nzes.org.nz

Content for the December 2013 issue of the NZES Newsletter is due by Friday 6 December 2013.

MEMBERSHIP

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

Types of Membership and Subscription Rates (2011)

Full (receive journal and newsletter) .....$80* per annum

Unwaged (with journal) .....$45* per annum
Unwaged membership is available only on application to Council for full-time students, retired persons etc.
Unwaged members may receive the journal but must specifically request it.

Overseas Full ..... $105* per annum

School.....$12 per annum

Institutional (New Zealand) ..... $NZ120* per annum (incl. GST and postage)

Institutional (Australia & South Pacific) ..... $NZ130* per annum (incl. GST and postage)

Institutional (Rest of World) ..... $US80* per annum (incl. air postage)

Overseas members may send personal cheques for their local equivalent of the NZ$ amount at current exchange rates, for most major overseas currencies.

For more details on membership please write to:

NZ Ecological Society
PO Box 5075
Papanui
Christchurch 8542
NEW ZEALAND

or e-mail: info@nzes.org.nz

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