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EDITORIAL

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As the International Year of Biodiversity draws to a close it seems timely to reflect on biodiversity related events and milestones for the year, the status of our biodiversity and what we are doing to protect and restore it. Earlier this year the New Zealand Government backed down on its proposal to allow mining in Schedule 4 areas after strong public opposition. It was heartening to see that New Zealander's still care passionately about protecting our pristine natural areas, with nearly 40,000 submissions made on the mining proposal and the largest protest march since the Springbok tour.

In the international arena, 193 member nations of the Convention on Biological Diversity (CBD) reached a new agreement on 29 October 2010 on saving the world's biodiversity in Nagoya, Japan. The general consensus seems to be that nations failed abysmally in meeting the goals from the previous CBD agreement (signed in 2002), which aimed to stem the global loss of biodiversity by 2010. The world's species continue to vanish at an alarming rate due to habitat loss, overconsumption, pollution, climate change, and invasive species, all driven by a burgeoning human population. Recent studies have confirmed the global extinction crisis: 22% of the world's plant species (Brummitt et al. 2010) and 20% of vertebrates (Hoffman et al. *in press*) are threatened with extinction.

So how does New Zealand fare compared to global figures? While only 7.6% of New Zealand's vascular plants are threatened with extinction, the percentage rises to 38% when at risk species (e.g. declining and naturally uncommon taxa) are included (de Lange et al. 2009). Likewise, 37% of NZ's resident native bird species are threatened with extinction, increasing to a massive 82% including at risk species (Miskelly et al. 2009).

However, the situation would be worse were it not for current global conservation efforts, according to a study to be published in the international journal Science (Hoffman et al. *in press*). The study used data for 25,000 species from The IUCN Red List of Threatened Species to investigate the status of the world's vertebrates (mammals, birds, amphibians, reptiles and fishes) and how this status has changed over time. The results show that, on average, 50 species move closer to extinction each year due to the impacts of agricultural expansion, logging, over-exploitation and invasive alien species.

Whilst the study confirms previous reports of continued losses in biodiversity, it is the first to present clear evidence of the positive impact of conservation efforts around the globe. Results show that the status of biodiversity would have declined by nearly 20 percent if conservation action had not been taken. Conservation efforts have been particularly

INSIDE:

Some of the goals from the 2010 CBD Agreement:

- Agreed to at least halve and where feasible bring close to zero the rate of loss of natural habitats including forests
- Established a target of 17% of terrestrial and inland water areas and 10% of marine and coastal areas protected
- To combat climate change, Governments will restore at least 15% of degraded areas through conservation or restoration
- Will make special efforts to reduce the pressures faced by coral reefs by 2015
- Safeguard at least 75% of threatened plant species in collections
- Eliminate subsidies harmful to biodiversity
- Take steps toward sustainable production and consumption
- Eradicate or control invasive species or their pathways
- Work with indigenous communities, respecting their knowledge and practices

For further information see www.cbd.int

successful at combating invasive alien species on islands. These results are only a minimum estimate of the true impact of conservation, as around nine percent of threatened species have increasing populations. These results show that conservation works, given resources and commitment. They also show that global responses will need to be substantially scaled up, because the current level of conservation action is outweighed by the magnitude of the threat.

To address the global extinction crisis CBD member nations agreed upon 20 goals for 2020, which are included in the new agreement. But given the difficulties in protecting biodiversity and the lack-of-teeth in the agreement (it is strictly voluntary), will the CBD actually make a difference? Or in ten years time will goals be again unmet and biodiversity even worse off?

The 20 specific targets for 2020 in the new agreement include halving current levels of habitat loss, placing 10% of the world's oceans (up from about 1 percent now) under protection, and protecting 17% of the world's terrestrial environments (up from 12% currently). While conservation organisations including WWF and Conservation International commend the boost in protection, they agree that the targets still fall well short of what is required to stem biodiversity losses. For instance, while the new target for marine protection represents a ten-fold increase over the roughly 1% currently protected and is in itself an ambitious goal, the target is still only half what scientists recommend.

One of the weaknesses of the agreement is that simply having targets of generic 'protected' areas may be insufficient to maintain viable populations of threatened species. For example, a third of New Zealand's land area is currently protected (the highest in the OECD; Ministry for the Environment 2010), yet native biodiversity continues to decline. Meanwhile, only 0.31% of New Zealand's marine area is protected (Ministry for the Environment 2008), well short of the 10% goal we adopted in our Biodiversity Strategy in 2000. The CBD agreement is also threatened by a lack of funding, which seems to be one of the main reasons why targets from the previous agreement were not met.

Despite the agreement's shortcomings, there appears to be a new sense of urgency, as nations recognise the importance of nature's services to people's lives and their livelihoods. Maybe I'm somewhat cynical, but there's nothing like a bit of self-interest to motivate people to take action! "However, the recent focus on promoting ecosystem services to provide additional incentives for protecting biodiversity may be a double-edged sword. Recent research findings presented by Ian Dickie at the NZ Ecological Society conference in Dunedin showed that higher biodiversity doesn't necessarily equate to improved ecosystem function (in fact the opposite can occur) – a result that those who argue for using the value of ecosystem services to protect biodiversity may not like!

Failure to meet the internationally agreed 2010 target to reduce biodiversity loss does not mean that conservation efforts have been in vain, as the above study demonstrates. However, adequate funding is needed to ensure we meet the goals for 2020 and reverse the decline of biodiversity. Will the world's Governments, including New Zealand's, rise effectively to meet this global challenge? Only time will tell.

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FEATURE ARTICLE

Restoring tui in Hamilton's backyard

John Innes
Landcare Research, Hamilton

Research conducted in collaboration with Neil Fitzgerald, Corinne Watts, Danny Thornburrow, Scott Bartlam (Landcare Research, Hamilton); Ben Paris, Kevin Collins (Environment Waikato).

The loss of 98.4% of original vegetation from the Hamilton Ecological District inevitably also removed most forest birds. Today there is <20 ha of good native habitat in Hamilton. Biennial 5-minute counts we have done in winter and spring in the City since 2004 show that 'green areas' (parks and gullies) have 50% more bird species and 100% more native bird species than residential areas. However, key iconics (tui, bellbirds, kereru) were rare or absent in 2004 and work has been done to increase tui numbers since then.

Public records and surveys suggested that tui were primarily winter visitors to the City and its peri-urban environments. But where did they come from? In winters of 2004-07 we captured tui in Hamilton and Cambridge and attached radio transmitters to see where they went to. In September and October, all flew 10-15 km back to surrounding native forest areas to nest, coinciding with the flowering of rewarewa. Studies of real nests of tui and other birds, and with artificial nests in Waikato forest fragments, then revealed the poor nesting outcomes typical of unprotected mainland forests, with only ca 20% of nests fledging young. Responding to this, and starting in 2007/08, Environment Waikato started intensive control of ship rats and possums via their 'Project Halo' at several sites to which radio-tagged tui had returned around the Waikato. Further sites – including the large, fenced Maungatautari – are now similarly protected by other agencies and groups.

In 2010 – after three protected breeding seasons – the number of count stations with tui in our biennial winter counts in Hamilton leapt four-fold, from 6 (of 101) stations in 2008 to 23 in 2010, reflecting the widespread views of residents that there were heaps more tui than there used to be. However, just-completed November counts (when tui may be nesting) showed tui at just two stations. This suggests that we understand how to get more tui to visit in winter but not how to get them to stay for nesting.

The only estimates of natal dispersal that I know of (1-1.5 km; Carol Bergquist, Auckland) suggest that subadult tui might be settling closer to their nesting forest remnants than Hamilton and other urban centres. However, a truly residential tui population may one day increase in Hamilton as the few pairs that ARE here fledge their sparse clutches, and/or as surrounding smallish forest areas 'fill up' with tui territories. Eventually I'm sure we will reach the giddy heights of places like Lake Okareka (Rotorua), Pukawa (Taupo) and Tanner's Point (Katikati) and many others around NZ where tui constantly enliven whole landscapes.

Captured tui are fed sugar water before release.

CONFERENCE REPORTS

Members that have recently attended a relevant conference are invited to submit a report for the newsletter (up to 1,000 words).

A BUDAPEST PERSPECTIVE

Bill Lee (Landcare Research, Dunedin) reflects on attending a recent international conference [reprinted with author's permission from Landcare Research's internal newsletter *Whakamarama*, 29 July 2010]

I confess I'm a reluctant participant in overseas travel, preferring to explore and investigate NZ, and this is partly why I go rather infrequently to international conferences. However, in early June, I attended the 8th European Paleobotanical and Palynological Conference in Budapest, Hungary and contributed a paper with Matt McGlone on treelines past, present, and future in New Zealand as part of a symposium on the Holocene and climate change. It was a challenge to agree with Matt about these issues, but I think I eventually understood the key advances Matt and others have made in their southern studies, and the talk attracted a good attendance and lots of questions. People were particularly fascinated by our inverted treelines - a new idea for most of them.

Calcareous grasslands surrounded by forestry and invading shrubs, Bukk Mountains, northern east Hungary.

Native gladioli flowering in calcareous grasslands.

The conference was diverse, slightly tangential to my general research focus, Euro-centric, and attended by numerous PhD students from eastern countries. It was held at the Hungary Natural History Museum, often amongst the specimens, and several talks had a mammoth and the extinct European lion in attendance, while one symposium was held in the (very spacious) director's office. I went to many talks where people struggled to reconstruct plant communities from pollen and macrofossils, attempted to get climate signals over varying timescales, and then tried to integrate changes in more recent times with human activities. I also became quickly aware how the Holocene in Europe is also the Anthropocene!

The Europeans and North Americans are becoming intensely interested in botanical links to China during phases in the Tertiary when northern climates were warm. A symposium on the topic attracted numerous joint presentations and a good attendance from Chinese academics. Even where there is a definite land bridge not all plant groups migrate between Europe and North America, and there seems little predictability about the movers and stayers. Global databases with information on plants and the local environment are on the cusp of allowing us to investigate the environmental context for diversification of different groups, habits, breeding systems, etc.

I saw new techniques and approaches that provide reassurance, excitement and/or scepticism. Ancient plant DNA now allows vegetation to be recognised from soils back 10,000 years (in some cases extracted from single pollen grains), holding both promise and pitfalls. There are growth cabinets now able to duplicate many past atmospheres ($C0_2$, SO_2, 0_2) and they are using kauri as their focal araucarian conifer.

I was reminded that famous people can give mediocre talks and that students can give excellent presentations. All presentations were in English and the range of quantitative techniques and integrated approaches used by many students was impressive.

A field trip to the Hortobagy steppe and floodplain area focused on debates about the age of the grasslands (early Holocene versus recent) and the controls on forest expansion. The extent of diverse grasslands with saline ecosystems requires grazing and they plan to shortly reintroduce Hungarian grey cattle as a natural feature. The botany and ecology was interpreted through the European tradition of phytosociology which focuses on every species and community telling a story, generally the same story everywhere they are found.

Another trip to the Bukk Mountains (c. 800 m) took me to the most spectacular calcareous grasslands I have ever seen with flowering gentians, lilies, iris, and gladioli, surrounded by *Fagus* forest and managed by three non-communicating government departments with responsibilities for timber, wild lipizzaner horses (currently suffering from an unknown disease), and nature conservation respectively.

I was reassured to find that OBI lives on as a well established house-supply franchise in Hungary, and that the scientific community in NZ has very little to complain about, compared with our colleagues in Europe who occupy a crowded space and struggle to fund many worthwhile projects, and have a EU bureaucracy of spectacular proportions. The scientific community is fortunate to involve people of incredible goodwill, and I was impressed with the encouragement, support, and collaboration that was evident amongst participants.

It is the stimulation of new ideas, approaches and techniques, the potential of new collaborations, time to think about NZ ecological issues, and the chance to integrate our research with what is happening elsewhere. I think that is why I go to conferences.

NZES CONFERENCE 2010

Debra Wotton
Landcare Research

More than 360 people attended the recent NZ Ecological Society conference in Dunedin. The conference was extremely well organised and included an impressive line-up of plenary speakers from both NZ and overseas. One of the highlights for me was a field trip to Macraes Flat. Participants heard from a number of experts on topics including plant diversity, threatened lizards, and the pros and cons of intensive predator control versus mammal-proof fences. Macraes Flat may be the most species rich site in the country (in terms of plants), with more than 460 plant species – nearly 20% of NZ's vascular plant flora! We were lucky enough to see both Otago and Grand skinks on the field trip. After a freezing cold morning the sun came out and so did the lizards, with a grand skink sighted on nearly every rock tor in a small gully that was not thought to have grand skinks. One rock outcrop even had a family of three basking side by side.

A wide range of symposia and four concurrent sessions made it difficult at times to choose which talk to attend. For me, one of the highlights was Alan Knapp's plenary talk on the effects of climate change in prairie grasslands in North America. His talk highlighted the importance of long-term research, as these grasslands showed significant lag times (more than eight years) in response to changed precipitation regimes.

Ecology students made an impressive contribution to the conference, with nearly 40 oral presentations and 27 posters. The high quality of student talks overall continues to impress. This year's student awards were judged by all conference participants and the competition was close with votes spread widely across many students.

Grand skink basking on rock tor at Macraes Flat

GONGS FOR NZ ECOLOGISTS

CHARLES FLEMING AWARD 2010

The 2010 Charles Fleming Award for Environmental Achievement has been awarded to **Emeritus Professor Sir Alan Mark** FRSNZ, Emeritus Professor of Botany at the University of Otago. He is regarded as New Zealand's leading environmental scientist and conservationist. During his long research career he has explored and illuminated the ecology of southern ecosystems, in particular tussock grasslands, wetlands and alpine communities, through many highly influential publications. Sir Alan was awarded Honorary Life Membership of the NZ Ecological Society in 2004.

APPOINTMENT TO INTECOL BOARD

Congratulations to Shona Myers, the Past President of the NZ Ecological Society, who was appointed to the Board of Intecol at the 10th Intecol conference in Brisbane last year.

NZES AWARDS FOR 2010

Congratulations to the 2010 NZES award recipients that were presented at the NZES conference in Dunedin in November 2010. A summary of the career and contribution to ecology of George Gibbs, recipient of the Te Tohu Taiao–Award for Ecological Excellence, will be published in the next issue of the newsletter.

HONORARY LIFE MEMBERSHIPS

Abridged nomination by Jill Rapson

Michael Greenwood (Palmerston North)

Michael has led an extraordinary life. As well as a successful career, he has pioneered thinking in his "hobby" of ecology, while leading by example in the actual practise of restoration. He is widely accepted as the Manawatu's most informed botanist. While remaining a quiet, thoughtful man, he is well liked and respected by all who know him. Michael's modesty is such that his achievements tend to be under-estimated. The outstanding achievements of his life can be grouped into four main categories.

1) Scientific Achievement

Michael initiated a career in biological science through the auspices of an inspired botanist and teacher, and went on to contribute to the science effort of World War II (see Item 2). Subsequently he developed much pioneering work on productivity in New Zealand pastures through his work on rhizobia - fungal connections with higher plants which greatly increase the nutrient uptake capacities of those plants. During this period he published over 40 papers, which have been cited at least 234 times in total by other workers in the field. Today such knowledge is the staple of agricultural production.

2) Contribution to Ecology

In 1973 Michael and colleague Ian Atkinson published a small note on a topic which was rather an aside to Michael's usual scientific interests. The note suggested a hypothesis for the unusually high frequency of occurrence of divaricating shrubs in New Zealand. These are shrubs with high angles of branching, interlacing stems, small leaves, often lacking leaves at the tips on the exterior of the plant. They suggested these were adaptations to resist browsing by moa. This simple paper immediately attracted attention, and after a quiet period of reflection, the New Zealand ecological literature has taken up the idea, and it is widely reported and commented on further. The two signal publications on the subject (Greenwood and Atkinson 1977, and Atkinson and Greenwood 1989) have been cited 67 and 59 times each respectively. A total of 122 authors have cited at least one paper by Michael Greenwood. In more recent times experimental work has been developed to address the topic, which has continued to provide decades of enjoyable debate for ecologists from New Zealand and overseas.

3) Contribution to Restoration Ecology

Though largely unacknowledged, Michael is probably New Zealand's first and foremost restoration ecologist. He started planting natives long before the science of restoration ecology was even developed, planting up an area adjacent to his house on Atawhai Road, and experimented there with using different natives. His modest report on the first 50 years of this planting shows his attention to detail and love of the plants. Its scientific and historical value means this area has been awarded the protection of a QEII covenant.

4) Contribution to Keeble's Bush

In 1971 Charles Keeble died, leaving in his will his patch of bush, long recognised as the best and most important fragment of lowland podocarp forest in the Manawatu, to posterity via a Charitable Trust. Michael worked for more than 14 years until 1985 to see this Trust actually established, in the meantime hopping over the Keeble's fence to maintain and care for the Bush informally.

Michael was the inaugural chair of the C.T. Keeble Memorial Forest Trust on its formation, holding the position for another 16 years, until 2001, and continuing today to act on the Trust Board and as Bush custodian. During much of his retirement he visited the Bush for at least some hours every working day.

In addition, Michael continued his interest in the developing science of restoration ecology here, by planting up protective zones around the Bush and also effectively increasing its size through additional plantings on adjacent land unwanted for farming purposes (the Greenwood planting). Michael used this work to experiment with use of nurse plants in restoration, conducting formal planting experiments, and monitoring them in detail to this day. During this period Michael grew and planted over 20,000 locally sourced material from seeds and cuttings for this restoration.

The success of these plantings was such that the Trust was subsequently offered the intervening wet block of land (called the Link) to plant up, and Michael assisted fellow board member Peter van Essen to plant this area. Michael continues to informally share his expertise and enthusiasm with other restoration projects in the area.

Despite increasing age Michael continues to work in the bush several times a week, and still organises work parties and attends to issues arising re the Bush. Its good health today is largely a credit to his tireless services.

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Dr Matt McGlone (Landcare Research)

Nomination by John Ogden & Peter Bellingham

Matt has been an outstanding contributor to New Zealand ecological science and to the international arena in his specialist field of palaeoecology, where the main emphases of his research have been furthering our understanding of vegetation history through pollen and charcoal analysis. Matt has made a huge contribution towards a better understanding of the ecological history of New Zealand, Quaternary climate change, and the impact of humans, and the Polynesian settlement of New Zealand. Matt has also made significant contributions to the field of biogeography, and to understanding the climatic adaptation of New Zealand plant species. He has applied this knowledge to helping develop New Zealand's climate change policies.

However, a focus on Matt's achievements in palaeoecology does not do him justice. He is one of New Zealand's few and true polymaths in ecology. It would be hard to think of anyone whose publications and interests have crossed so many fields – partly driven by his own curiosity and interests, and supported

by his intellectualism and depth of knowledge, but also partly through an extraordinary network of collaborations with others – including archaeologists, phylogeneticists, evolutionary ecologists, botanists, climatologists, modellers, etc. from throughout New Zealand and the world. He has inspired (and occasionally terrified) many students and colleagues with his endless production of ideas that he and others have gone on to test. Matt generates more hypotheses and ideas in a week than most ecologists do in a working life. Matt's achievements as an ecologist extend to New Zealand's broader scientific community, where he has been an important contributor during a period of tumultuous change in the administration and application of science in New Zealand. A measure of Matt's influence was that he was Science Adviser to the Minister for Crown Research Institutes and Research, Science, and Technology throughout 1997.

Matt qualified with a BSc in zoology and botany (1969) then with a first class MSc in botany in 1972 from Victoria University of Wellington, then with a PhD in botany from the University of Canterbury in 1980. Since then Matt has published 127 refereed papers (at May 2010), and of these 30 have been cited 30 times or more. These include papers in *Nature* and *Nature Geoscience*, and the second-most highly cited paper in *New Zealand Journal of Ecology* (McGlone MS 1989. The Polynesian settlement of New Zealand in relation to environmental and biotic changes. *New Zealand Journal of Ecology 12*, 115–129; cited 129 times). Many of the papers are co-authored with New Zealand and international collaborators, and with PhD students whom Matt has supervised. Matt has written other significant review papers published in *New Zealand Journal of Ecology*, notably about the origins and the history of New Zealand's grasslands (2001, *New Zealand Journal of Ecology 25*, 1–15) and wetlands (2009, *New Zealand Journal of Ecology 33*, 1–23). He has written two books, one as a co-author (1988, *Prehistoric New Zealand*) and one as senior author (1990, *Unsettled Outlook: New Zealand in a Greenhouse World*), and he is currently writing a book about New Zealand's environmental history.

As measures of the professional esteem in which Matt is held he received the McKay Hammer Award (1985, New Zealand Geological Society), the Te Tohu Taiao - Award for Ecological Excellence (2006, New Zealand Ecological Society), and was made a Fellow of the Royal Society of New Zealand in 2008. In 2001, he was invited by the New Zealand Royal Society to be the Cockayne Memorial Lecturer. He has been on the editorial boards of *Arctic and Alpine Research* and *Journal of Biogeography* (1997–2005) and is currently on the editorial boards of *The Holocene* (1997–), *New Zealand Journal of Ecology* (2009–) and he is an Associate Editor for *Global Ecology and Biogeography* (2005–). He was a past Chairman of the Editorial Advisory Board of *New Zealand Journal of Botany* and he was the editor of the *New Zealand Ecological Society Newsletter* (1983–1986).

Matt has also been pre-eminent in public debate about ecological issues in New Zealand, often forthright in his views. His views have challenged orthodox views on the origins of New Zealand's flora, the role of climate in shaping the New Zealand flora, and the date and extent of Polynesian impact on the New Zealand landscape. More often than not, his views have been vindicated by an accumulation of evidence. He has appeared in many public forums, including radio and television, his collaboration has been sought in the public presentation of science, such as at Te Papa Tongarewa, and in the compilation of Te Ara (the on-line encyclopaedia of New Zealand). His views are sought nationally and internationally to better inform the public about ecological, historical, and climate change issues.

ECOLOGY IN ACTION AWARD

Dr Marieke Lettink (Fauna Finders, Christchurch)

Nomination by Jo Hoare

Marieke obtained a PhD from the University of Otago in 2008 based on research investigating the use of artificial retreats for monitoring and restoring lizard populations. Her work with artificial retreats has revolutionised survey and monitoring of lizards in New Zealand (see Lettink & Cree, 2007; Lettink *et al*., 2005 for more detail). Marieke is now working as an independent ecologist/herpetologist and running her own business, Fauna Finders, based in Christchurch. Throughout her doctoral research and since completing her PhD, Marieke has been extremely dedicated to promoting ecology in the local community through education of landowners, community groups and the general public.

Marieke has a long history of raising community awareness about reptiles and is a strong advocate for their conservation in Canterbury, and particularly on Banks Peninsula. She has provided hands-on advice at two BioBlitz events held in Canterbury (a BioBlitz is a public event in which scientists, students and the public take on the challenge of counting as many species as possible in a 24 hour survey of a large urban area). She has held two highly successful lizard workshops for the Banks Peninsula Community Trust and has opened her own garden (full of lizards) to the public on numerous occasions to promote their awareness of lizard conservation.

Marieke has worked with the local Council to identify important sites for lizard conservation around Banks Peninsula and to rescue lizards from sites destined for destruction. She is currently working with landowners on Banks Peninsula to help conserve jewelled geckos and their habitats in a project funded by the Biodiversity Advice Fund. Marieke is also an advisor to the Otamahua/Quail Island Ecological Restoration Trust and has worked with the Department of Conservation to promote lizard-friendly gardens. She has authored pamphlets on "Attracting lizards to your garden" and "Jewelled gecko/moko-kākāriki conservation", which were distributed to homes in lizard hotspots across Banks Peninsula. She developed an excellent rapport with local iwi who are kaitiaki at her PhD field site on Kaitorete Spit and enhanced their awareness of the lizard taonga on the Spit.

In addition to contributing so much to community and outreach work, Marieke continues to conduct contemporary and relevant research in applied herpetology and demonstrates her commitment to producing high quality scientific publications. Since 2008 she has also initiated and produced a newsletter dedicated to green gecko issues, titled 'Moko-kākāriki Matters', which has gained fame and momentum among the herpetological community.

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Lettink, M., Cree, A., Seddon, P.J., & Norbury, G. (2005) Pitfall traps versus artificial cover objects: a comparison of methods and preferences in a mark-recapture study of New Zealand lizards. *New Zealand Journal of Zoology*, 32, 219–232.

BEST PUBLICATION BY A NEW RESEARCHER

From 2010 onwards, only papers published in New Zealand Journal of Ecology are eligible for this award.

Imogen Bassett (School of Biological Science, University of Auckland) for the paper:

Bassett, I.E.; Beggs, J.R.; Paynter, Q. 2010: Decomposition dynamics of invasive alligator weed compared with native sedges in a Northland lake. *New Zealand Journal of Ecology 34*: 324-331.

http://www.newzealandecology.org/nzje/abstract.php?volume_issue=j34_3&pdf_filename=NZJEcol34_3_324.pdf

Abstract: Invasive weeds have been shown to alter ecosystem processes such as decomposition and nutrient cycling. However, little is known about the effects of introduced biocontrol agents on these processes. This study examined the effects of alligator weed (*Alternanthera philoxeroides*) and its biocontrol agent, the alligator weed flea beetle (*Agasicles hygrophila*), on nutrient cycling in a northern New Zealand lake. Alligator weed litter decomposed significantly faster than either of two native sedge species (*Schoenoplectus tabernaemontani*, *Isolepis prolifer*) in a litterbag experiment. In addition, the presence of the alligator weed flea beetle resulted in large amounts of decaying alligator weed litter entering the lake in early summer. Both the timing and magnitude of this litter input were uncharacteristic of seasonal biomass dynamics of the native sedges. Combined with alligator weed's rapid decomposition, this indicates altered patterns of nutrient cycling at the lake, with potential flow-on effects including facilitation of further weed invasion.

Chris Bycroft

CONFERENCE STUDENT AWARDS

Best student conference paper

Josie Galbraith (School of Biological Science, University of Auckland) for the paper:

Galbraith, J.A., Clout, M.N. Nesting ecology of the eastern rosella.

Abstract: A number of hole-nesting bird species have been introduced to New Zealand over the last 200 years and have established wild populations within native systems – some very successfully. The impacts that these exotic cavity-nesting birds are having on communities of native hole-nesters are largely unknown. This study focused on the nesting ecology of an introduced parakeet, the eastern rosella (*Platycercus eximius*). Rosella nest-site use and selection was investigated at the microhabitat, macrohabitat and landscape scale. Additionally, preliminary nesting niche comparisons with native hole-nesting birds were made in an attempt to understand what impact the use of cavity resources by eastern rosella may have on native species. We found the overall availability of cavities in the forest sites studied to be low. Within these sites, rosella were found to nest in areas where more potential nest sites were available, typically where the forest was more mature. The characteristics of nest sites used by rosella overlapped in a number of respects with those of native cavity-nesting birds, particularly red-crowned kākāriki (*Cyanoramphus novaezelandiae*). Consequently rosella can be considered a genuine competitor for nest sites where they occur together in sympatry with their native counterparts.

Josie Galbraith also was awarded the prize sponsored by the *Society of Conservation Biology* for the **Best talk at an NZES conference with a conservation theme**. This gives Josie free membership of the Society of Conservation Biology for a year and free access to its journals.

Highly commended paper

Helen Nathan (University of Auckland) for the paper:

Nathan, H., Clout, M., Murphy, E., MacKay, J. Advance, invading hordes! Population growth and detectability of mice on Saddle Island.

Abstract: The house mouse (*Mus musculus*) is an important mammalian pest species both in New Zealand and worldwide. Mice have proved difficult to eradicate and where they are able to invade a pest-free area, populations can quickly irrupt to

unmanageable proportions. This study follows the invasion of a small pest-free island by mice. A founder pair of mice was released on Te Haupa (Saddle) Island in December 2009. A population was allowed to establish and persist until August 2010 and was intensively studied throughout this period. The investigations carried out consisted of three main elements. (1) The rate and magnitude of population growth from the initial two individuals was monitored using capture–mark–recapture methodology to estimate population size at regular intervals. (2) Mouse ranging behaviour at different population densities was investigated using a grid of tracking tunnels and toe-clipped individuals. (3) The effectiveness of Department of Conservation protocols for detecting incursions of pest-free islands was assessed by replicating the protocols at different population densities. Key findings were that the mouse population showed the sigmoidal pattern of growth characteristic of invasive species, ranging behaviour was modified by population density, and current detection methodologies were adequate. While there have been many studies investigating the population dynamics of existing populations of mice, those of a population in the initial stages of invasion have never been documented so far as we are aware. As such this project represents an important advance in the study of the colonising behaviour of this prolific invader.

Best student conference poster

Harriet Thomas (University of Otago) for the poster:

Thomas, H., Kelly D., Poulin, R. How well can kinky fish swim? Trematode infections in a threatened species.

Abstract: Freshwater ecosystems are home to a multitude of parasites, which affect their hosts in a variety of ways. These alterations often directly or indirectly increase trophic transmission to the definitive host, e.g. skeletal malformations in amphibians in North America. More recently, malformations have been identified in juveniles of a threatened native galaxiid species, *Galaxias anomalus*, caused by the trematode parasite *Telogaster opisthorchis* in Otago. *Telogaster opisthorchis* infects the galaxiid (its intermediate host) at all stages of the fish's life, yet the effect of parasites in younger fish is likely to be greater as they have lower body reserves and a relatively high metabolism. Malformations are likely to amplify these effects as parasites have been found to decrease the condition of host individuals, leading to a greater chance of predation and transmission of the parasite. The discovery of malformations in amphibians has been linked to the rapid decline in population numbers of numerous species. It is possible a similar trend may occur in *G. anomalus* and therefore it is important to understand how parasites are causing malformations and their subsequent effects. By analysing the performance of young fish in a series of laboratory experiments, we assessed the swimming performance and condition of infected fish relative to control fish and their likelihood of survival. Our results shed new light on the impacts of parasitism and the resulting malformations on the survival of these fish, and could lead to the implementation of better conservation practices.

Highly commended poster

James McCarthy (University of Canterbury) for the poster:

McCarthy, J.K., Brockerhoff, E.G., Hood, I.A., Pawson, S.M., Didham, R.K. Role of bark vectors in the colonisation of windthrown timber by fungi.

Abstract: Recent wind and snow storm events affecting plantation forests of *Pinus radiata* in New Zealand have raised questions regarding the colonisation of fallen trees by sapstain fungi. These fungi are known to be spread by a multitude of factors including wind, rain splash, harvesting processes, and insect vectoring. Apart from the ecological interest in these interactions between fungi, plants and insects, sapstain fungi are also economically important because their hyphae discolour the sapwood and reduce the overall quality of the timber. Initially, a study was set up in sites affected by wind and snow storms in the Nelson region to measure sapstain accumulation over time and monitor the abundance of bark beetles (Coleoptera: Scolytinae), which are known vectors of some sapstain fungi. We found that snapped trees accumulate sapstain and insect attack faster than trees that topple but remain rooted, and that the most common stain fungus affecting these trees was *Diplodia*

pinea. Subsequently, manipulative experiments have been established to examine seasonal and regional variation in sapstain attack, and the importance of bark beetles as vectors. Trees are being felled at regular intervals to simulate windthrow at different times of the year, to assess seasonal effects. Also, experimental billet logs have been caged to exclude beetles and subsequently analyse fungal attack in comparison with identical logs left exposed to beetles. Finally, individual beetles are being analysed to determine what fungal species may be associated with them. An overview of the study, rationale, and preliminary results will be presented.

Best student presentation in the symposium 'Biodiversity and production lands: The benefits and the risk'

Sponsored by ARGOS

Kerry Borkin (School of Biological Sciences, University of Auckland) for the presentation:

Borkin K. & Parsons S. Production landscapes as bat habitat: valuable or costly?
Abstract: Many New Zealand landscapes have little native forest cover remaining and are largely mosaics of plantation forestry, pasture, and native regenerating areas. Long-tailed bats are generally associated with native forests, but have been reported using plantation forests throughout New Zealand. However, the relative use of *Pinus radiata* plantations by bats had not been quantified in comparison with the alternative habitat types: pasture and native regenerating areas. By monitoring echolocation call rates, we found that bat activity was highest for the oldest *P. radiata* stands, lowest in pasture, and moderate in native regenerating areas. This result justified further research into bat ecology within plantation forests. We found records of bats using plantation forest from Northland to South Canterbury, thus greatly increasing the area bats were previously assumed to inhabit. However, small colony sizes, and high rates of reuse of poorly insulated, relatively short term roosts suggest populations are more limited than those in previously studied rural mosaic and native forest habitats. Forestry operations coincided with colony size declines, as well as reductions in the numbers of roosts used. Consequently, declines in plantation forest area may also result in reduced bat populations. Bats' use of plantation forest and pastoral landscapes indicate that protection measures should not be restricted to native forest to protect native fauna. This research highlights the importance of mature forest, regardless of native or exotic status, and suggests production landscapes are valuable because they provide increased area for bats to inhabit, and costly because of impacts of clearfell harvest operations.

Kauri Seed Scholarships were also awarded to seven undergraduate ecology students to enable them to attend the NZ Ecological Society conference in Dunedin.

Bruce Burns (NZES President) with Kauri Seed Scholars Justyna Giejsztowt, Eva Pomeroy, Maddie Jardine, Kelly Frogley, Esther Dale, and Tsukushi Kamiya (Trina Smith not pictured).

WHAT'S NEW?

Compiled by Debra Wotton

NZES website update

The recently launched NZ Ecological Society website continues to go from strength to strength under the management of the webmaster Laura Young. New features include advertisements for ecology jobs, PhD scholarships and Postdoctoral Fellowships, and upcoming events such as university summer courses and ecology meetings and conferences. To keep up to date with the latest ecology news in between newsletters, make sure you visit the website www.nzes.org.nz. If you have any suggestions for what you would like to see on the website please email Laura Young (laura.young@nzes.org.nz).

Plant phenology recording system launched

In June this year, the New Zealand Plant Conservation Network (NZPCN) launched a national plant phenology recording system on its website (www.nzpcn.org.nz). Phenology is the study of periodic plant and animal life cycle events and how these are influenced by seasonal and inter-annual variations in climate. This new system allows recorders to document observations of flowering, fruiting or dieback events for any vascular plant. Species records can be viewed on a Google map, and users can also search by event type (e.g. flowering), year, wild or cultivated records, and district. New Zealand ecologists are encouraged to register as a recorder (NZPCN members are automatically registered) and start loading their observations of phenological events at sites throughout New Zealand. Detailed phenology records for New Zealand plants have many potential applications, from planning fieldwork to coincide with flowering and fruiting times, ensuring weed control occurs prior to seed set, and documenting responses to climate change. In the first six months approximately 3,000 records for more than 300 plant species have already been uploaded.
http://nzpcn.org.nz/page.asp?flora_phenology

Clematis afoliata *flowering early November 2010, Waipara, Canterbury. Photo: Debra Wotton.*

Treasure trove of botanical research goes online

Botanical enthusiasts now have a 'treasure trove' of information on New Zealand plant life at their fingertips, with the journals of the Auckland, Wellington and Christchurch Botanical Societies now digitised and freely available online. The results of thousands of hours of botanical survey and field observations by New Zealand's amateur and professional botanists are now accessible to anyone on the New Zealand Plant Conservation Network's website (www.nzpcn.org.nz).

The regional botanical societies were founded to provide a forum for botanists to meet and learn about New Zealand's unique and globally important plant life. The Auckland and Wellington societies were the first to be established in 1937 and 1938 respectively. Since then botanists have been meeting regularly all over New Zealand to undertake field trips and to talk about plants. "These digitised journals are a remarkable resource for anyone interested in our native flora," said Network President Philippa Crisp. "People will be able to make use of the knowledge gained over years of field work by some of our most experienced botanical experts."

The on-line, searchable resource includes papers by WRB Oliver (former Director of the Dominion Museum) and the legendary field botanist A.P. (Tony) Druce. Entries range from the academic to the quaint, such as the observation by Mrs W. W. Samson of Wellington in 1941 about *Lagenophora* – a small native daisy - that, "Indeed they seem to be the friendliest of flowers".

The digitisation project was funded by the Terrestrial and Freshwater Biodiversity Information System (TFBIS) Programme, which is supported by government to help achieve the goals of the New Zealand Biodiversity Strategy. It is administered by the Department of Conservation.
http://bts.nzpcn.org.nz/

Frugivores and seed dispersal virtual symposium

Every five years the world's leading researchers in animal seed dispersal gather for a symposium to present their latest research findings. This year, the fifth such symposium was held in Montpellier, France from 14–17 June, with the theme "Mechanisms and consequences of a key interaction for biodiversity". Those who were unable to travel to France to attend the conference can still register for the virtual online conference and view slides and listen to both plenary and oral presentations, and read posters presented at the FSD2010 symposium. Daily sessions are fully searchable by session name, speaker, and presentation title. Presentations are available in either Windows or Mac compatible format. Registration includes exclusive access to the FSD Virtual Symposium content for up to three years following the conference. The virtual symposium includes 31 plenary talks (each of 30 minutes), 71 oral papers (15 minutes) and 69 posters. A bargain for only €30!

For further information, or to register for the virtual symposium, visit http://www.fsd2010.org/

HOT SCIENCE

Compiled by Debra Wotton

What's hot in NZ ecological research

Absence of mammals and the evolution of New Zealand grasses

ANTONELLI A, HUMPHREYS AM, LEE WG, LINDER HP

Anthropogenic alteration of biotic distributions and disturbance regimes has dramatically changed the evolutionary context for the differentiation of species traits. Some of the most striking examples in recent centuries have been on islands where flightless birds, which evolved in the absence of mammalian carnivores, have been decimated following the widespread introduction of exotic predators. Until now, no equivalent case has been reported for plants. Here, we make use of robust analytical tools and an exceptionally well-sampled molecular phylogeny to show that a majority of New Zealand danthonioid grasses (Poaceae) may have adapted to the relaxed vertebrate herbivore pressure during the late Cenozoic through the development of a distinctive and unusual habit: abscission of old leaves. This feature occurs in only about 3 per cent of the world's roughly 11 000 grass species and has been empirically shown to increase plant productivity but to reduce protection against mammal grazing. This result suggests that release from a selective pressure can lead to species radiations. This seemingly anachronistic adaptation may represent an overlooked factor contributing to the severe decline in the geographical extent and species diversity of New Zealand's indigenous grasslands following the introduction of herbivorous terrestrial mammals in the 19th century.

This article was published online in Proceedings of the Royal Society B: Biological Sciences, September 2010, doi: 10.1098/rspb.2010.1145

Punching above their weight: low biomass non-native species have larger impacts than dominant shrubs on soil properties in primary succession

PELTZER DA, BELLINGHAM PJ, KUROKAWA H, WALKER LR, WARDLE DA & YEATES GW

Non-native invasive plants can greatly alter community and ecosystem properties, but efforts to predict which invasive species have the greatest impacts on these properties have been generally unsuccessful. An hypothesis that has considerable promise for predicting the effects of invasive non-native plant species is the mass ratio hypothesis (i.e. that dominant species exert the strongest effects). We tested this hypothesis using data from a four year removal experiment in which the presence of two dominant shrub species (one native and the other not), and subordinate plant species, were manipulated in factorial combinations over four years in a primary successional floodplain system. We measured the effects of these manipulations on the plant community, soil nutrient status and soil biota in different trophic levels of the soil food web. Our experiment showed that

after four years, low-biomass non-native plant species exerted disproportionate belowground effects relative to their contribution to total biomass in the plant community, most notably by increasing soil C, soil microbial biomass, altering soil microbial community structure and increasing the abundance of microbial-feeding and predatory nematodes. Low-biomass, non-native plant species had distinct life history strategies and foliar traits (higher foliar N concentrations and higher leaf area per unit mass) compared with the two dominant shrub species (97% of total plant mass). Our results have several implications for understanding species' effects in communities and on soil properties. First, high-biomass species do not necessarily exert the largest impacts on community or soil properties. Second, low-biomass, inconspicuous non-native species can influence community composition and have important trophic consequences belowground through effects on soil nutrient status or resource availability to soil biota. Our finding that low-biomass non-native species influence belowground community structure and soil properties more profoundly than dominant species demonstrates that the mass ratio hypothesis does not accurately predict the relative effects of different coexisting species on community- and ecosystem-level properties.
This article was published in Oikos 118:1001-1014. 2009.

NOTICEBOARD

Celebrating wetlands

The year 2011 marks the 40th anniversary of the Ramsar Convention on Internationally Significant Wetlands - the only international treaty that relates to a specific ecosystem type dispersed across the globe. The Department of Conservation, National Wetland Trust, Fish and Game Council, Forest and Bird, and Auckland Regional and Manukau City Council staff met recently to brainstorm ideas for a range of events to celebrate throughout the year.
If you are interested in contributing ideas or finding out more please email: 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 contribution, whether $10, $20 or $50, to the Kauri Fund now or at the time you renew your subscription.

You can make your contribution to the Kauri Fund in two ways:

Send a cheque made out to the "NZES Kauri Fund" to the New Zealand Ecological Society, P.O. Box 25 178, Christchurch 8144.

Use internet banking, to credit your donation to New Zealand Ecological Society, bank account 06 0729 0465881 00, identifying the payment as "Kauri Fund".

UPCOMING MEETINGS

14th Biennial SRARNZ Conference

Society for Research on Amphibians and Reptiles in New Zealand (SRARNZ)
11–13 February 2011

Tautuku Outdoor Education Centre, Catlins Coast, Otago.

Celebrating nearly 25 years since the establishment of SRARNZ. For further information see www.srarnz.org.nz/

NOTICEBOARD

Celebrating wetlands
Kauri Fund appeal

International Botanical Congress
23–30 July 2011

Melbourne, Australia

The Australian botanical community invites you to Melbourne, Australia in July 2011 to participate in the XVIII International Botanical Congress. Australia has a vibrant scientific community active across all botanical disciplines and its researchers play a prominent and highly collaborative role in international biological sciences.

Themes include:

- Systematics, evolution, biogeography & biodiversity informatics
- Ecology, environmental change & conservation
- Structure, development & cellular biology
- Genetics, genomics & bioinformatics
- Physiology & biochemistry
- Economic botany including biotechnology, agriculture & plant breeding

Abstract submission for oral presentations has now closed but poster abstracts can be submitted until 1 February 2011 (also the early bird registration deadline).

For full details see: www.ibc2011.com

The European Ecological Federation (EEF) 12th EEF Congress
25-29 September 2011

Ávila, Spain
www.europeanecology.org

25th International Congress for Conservation Biology (ICCB2011)
Society for Conservation Biology
29 November–3 December 2011

University of Canterbury, Christchurch, New Zealand
More information coming soon, see: www.conbio.org

19th International Congress of Biometeorology (ICB2011)
5–9 December 2011

University of Auckland, Auckland, New Zealand

Climate and Society
The overall aim of ICB2011 is to explore the links between climate and society. This is because a central ethos of the interdisciplinary science of Biometeorology is the desire to understand interactions between atmospheric processes and living organisms - plants, animals and humans. Such interactions are fundamental to the well-being and sustainability of society at a range of geographical and time scales. Given this we anticipate the participation of scientists including social scientists and health scientists from a wide range of fields in ICB2011. At this stage of the planning process the general ICB2011 programme structure will include plenary sessions, parallel paper sessions, fieldtrips (optional), and social events such as an ice breaker and congress dinner.

For further detail see: www.icb2011.com

5th National Wetland Restoration Symposium
21–23 March 2012

Invercargill, New Zealand

This symposium is being organised by the Southland Wetlands Working Party in conjunction with the National Wetland Trust. More details to follow, for updates see: www.wetlandtrust.org.nz

7th World Congress of Herpetology
8–14 August 2012

Vancouver, Canada

Further information about the congress will be posted on the congress website: www.worldcongressofherpetology.org

NEWS FROM YOUR COUNCIL

COUNCIL MINUTES

These minutes have been edited and abridged.

22 November 2010, Dunedin

Present: Bruce Burns, Mel Galbraith, Shona Myers, Laura Young, Chris Bycroft, John Sawyer, Debra Wotton, Fleur Maseyk
Apologies: Clayson Howell, Isabel Castro, KC Burns, Ruth Guthrie.

Approve minutes from last meeting
Deferred.

Matters arising
None.

Membership
Report provided by Ruth Guthrie shows that membership numbers are up by 70 (this is believed to be caused by the conference). The issue of memberships in arrears was discussed, specifically how to deal with people that are in arrears and determining the join date (should this be based on when someone joins or a fixed yearly date).

John Sawyer described the system the NZPCN uses about cancelling membership after 6 months. Bruce Burns suggested that we need to change the rules to enable the society to remove people from the membership list when in arrears, rather than waiting for letter of resignation from members. This should be triggered after 6 months of a person being in arrears. This issue has to be parked till another meeting as such changes need to be voted through an AGM. The process has to be determined so that we come to the next AGM with a solid proposal.

NZES Conference 2010
Student day was very successful day according to students.

Australian Ecological Society conference
Bruce Burns will attend the Ecological Society of Australia conference in response to their invitation. Mel Galbraith suggested that we offer to pay for the Australian Ecol Soc award winner to attend and present at our conference; Bruce will suggest it to the Australians.

Note that Shona Myers is now on the Global Intecol Board. The council congratulated Shona on her appointment.

AGM
Ruth Guthrie will not be in attendance but Shona Myers is willing to take minutes at the AGM. All current council members are available. One council member is due for re-election (Isabel Castro's term finishes). Fleur Maseyk is willing to stand for the position.

KC Burns is seeking quotes to put the journal into an electronic submission system. This will cost the organisation money but will improve efficiency. Bruce suggested that the society pay a $5,000 / year honorarium for journal editorship. He will raise this at the AGM in principal. Committee members indicated that this would be a good idea. Bruce will ask Jacqueline Beggs and Mick Clout to continue to be on Kauri fund committee.

Awards
Chris Bycroft proposed that a second place Student poster be allocated for $200. This was carried unanimously. It was noted that ARGOS had sponsored an award. Chris suggested that we could give Kauri scholarship winners and losers a free year's membership. Carried unanimously. A vote of thanks was moved to Chris Bycroft for his work on the awards.

Ecological accreditation for NZ
Ian Spellerberg has raised this with the Council EIANZ that the NZES support this initiative and that it may be able to identify people that can assist with accrediting people on a panel. Mel Galbraith suggested that a plenary slot be offered to present this to the rest of the Society at a future conference.

Thank you to conference organisers
At the closing ceremony Bruce talked about thanking the conference organising team (Deb, Bill and Gretchen). Bruce moved that a $75 book voucher be bought and given to each of the three organisers. Carried.

Closing ceremony
Chris suggested that SCB be involved in final ceremony to acknowledge their involvement. Chris will arrange.

Website
Laura talked about her work on the website. Jobs especially PhD scholarships are not covered well on Conjobs. NZES council agreed to Laura attending a course on Drupal.

Bruce talked about keeping an eye on the Australian Ecological Society Facebook page as this regularly advertises jobs and postgraduate opportunities. A suggestion was made that Laura develop a web site strategy or look at website improvements in conjunction with Karen Denyer's communication strategy (which was raised as a major driver of change). John Sawyer will discuss with Jon Sullivan about the user interface for the journal component of the NZES website.

NZES Conference 2011
Bruce said that he was having second thoughts about next year's conference and embedding ourselves with the SCB in Christchurch. The conference is a big money spinner for the society. Bruce said that a decision would have to be made soon about whether we should have our own conference in Rotorua, Auckland or Wellington. A meeting will be held after the AGM to discuss options for next year's conference.

NZ ECOLOGICAL SOCIETY AGM

Minutes of the 58th AGM of the NZ Ecological Society, 25 November 2010

Held at Archway Lecture Theatre 1, University of Otago, Dunedin. The meeting opened at 5.15pm.

Present
Bruce Burns (Chair), Shona Myers (minutes), Clayson Howell (treasurer), Mel Galbraith, Chris Bycroft, John Sawyer, K C Burns, Fleur Maseyk and 34 other members (see list below).

1. Apologies
Professor O'Connor, Kath Dickinson, Jon Sullivan, Carol West, Ruth Guthrie. Mel Galbraith moved that the apologies be accepted, Seconded by Alan Mark, Carried.

2. Minutes of 57th AGM
John Sawyer moved the minutes be accepted as a true and correct record, Seconded Fleur Maseyk, Carried.

3. Matters arising
There were no matters arising.

4. Annual reports

President

Bruce Burns presented his President's annual report.

As always, the Society's 'year' starts with a conference and finishes with one. I report here on the main activities of the Society between the Intecol 10 Congress held in Brisbane in August 2009 and the conference in Dunedin we are currently enjoying. It has been a period in which the Society has progressed well on a number of fronts thanks to the hard work of a core group of members; but there is much more that the Society could do in promoting ecology and supporting its membership in the future, and these will be the tasks of the incoming Council.

The Society joined with the Ecological Society of Australia to host the 10th International Congress of Ecology last year. This Congress substituted for our domestic conference, allowing our members the opportunity to experience ecological science of the highest calibre and from every part of the globe. The Congress attracted 1370 participants from a huge diversity of countries, and was a great success. It also forged greater ties with our Australian counterparts (Ecological Society of Australia), which our Society should look to further extend and strengthen in the future. Three New Zealand field trips were run after the Congress, organised by our Society. Thanks to my fellow field trip leaders, Avi Holzapfel and Warwick Silvester for helping organise and take those trips with me.

The Society completed an exercise over the 'year' in rebranding; introducing a new logo and launching a new website. This is the first makeover the Society has had for many years, and these initiatives are being followed up with the production of a number of banners and other materials to promote the Society more widely. For example, the Society provided a small sponsorship to the Island Invasives Conference in Auckland in February 2010, and displayed a banner at this conference, using this opportunity to advertise membership of the Society and the journal. This year also saw the end of the NZES listserver, maintained for many years by the University of Canterbury. Many thanks to Canterbury for providing this useful service for so long. For the website, I would particularly like to thank the hard work of John Sawyer, Jon Sullivan, Laura Young, and Fleur Maseyk in its development. All websites of this type are continually evolving, but the underlying structure of our new website is such that we will be able to rapidly and often update it with information relevant to our members. Any feedback from members on the new website including features they would like to see added would be welcome.

It has been a significant year for the New Zealand Journal of Ecology as well, which will be detailed in KC Burns' report. Highlights for me have been the change to an A4 format, greatly reducing our printing costs and streamlining our production; the increase in the journal's impact factor; and the publication of the 'Feathers to Fur' volume. This latter volume reviews the current status of New Zealand ecology and arose from an influential symposium at the Society's 2008 conference. Thanks to Dave Kelly, Jon Sullivan, Jenny Ladley, and Jenny Steven for co-editing this seminal issue, and special thanks to KC and Anne Austin the technical editor, for their professional work on this and the other issues of the journal. KC has been working hard to maintain and improve the quality of the New Zealand Journal of Ecology, and position it well within a highly competitive and rapidly changing scientific publishing market, building on the great work of earlier editors. We have been fortunate in finding such able editors as KC willing to voluntarily run the journal for many years now; the Society might consider whether there are ways to safeguard this advantage if it wishes to protect the quality of its flagship publication.

Since August 2009, there have been 5 issues of the Society's newsletter ably edited by Fleur Maseyk. Under her guidance, the newsletter has flourished and become a well-read news sheet and magazine on New Zealand ecology and ecologists. Fleur is standing down as newsletter editor at this conference and passing on the task to Debra Wotton. I want to strongly thank Fleur for

her excellent work on the newsletter, and welcome Debra to this role. I'm sure Debra would want me to remind and encourage members to keep on providing contributions for the newsletter.

The Society established a capital fund several years ago to provide funds for active promotion of the science from interest earned. It is gratifying that the Kauri Fund for Ecological Science has now grown to a size where the first initiatives stemming from this fund are being realised at this conference. The Society launched its Kauri Seed Scholarships at this Dunedin conference, paying for the attendance by top undergraduates in ecology from across the country. Building the Kauri Fund further will allow other similar initiatives, and I encourage support of the Fund by members to achieve this. Thanks to Jacqueline Beggs and Mick Clout for their help as non-Council Trustees of the Kauri Fund over the last year.

The Society has contributed to two submissions on ecological issues over the year. The first was development of a position statement from the Intecol conference, which was submitted to the Copenhagen conference on climate change through the Intecol Board. My thanks to those who drafted this statement, in particular Colin Meurk. The second was a submission on the proposal to open up schedule 4 conservation land for mining. The Society supported a submission prepared by the New Zealand Committee of IUCN on this issue (The Society is a member of IUCN).

Over the year, one development that will significantly impact on the ecological consultancy industry and our members is the establishment of an Ecology Specialist Certificate of the Certified Environmental Practitioner Program (CEnvP). This has been a process carried out over both Australia and New Zealand by the EIANZ (Environmental Institute of Australia and New Zealand) and the certificate was launched at their conference in October this year. I would like to thank Ian Boothroyd and Paul Blaschke who commented on drafts of the proposed certification process on behalf of the Society. This new certificate now provides standards for being a professional ecologist in Australia and New Zealand, and effectively 'lifts the game', changing the face of the ecological marketplace. Be prepared for the repercussions of this over the next few years.

It's been a pleasure to work with such a hard-working, effective and friendly Council and I wish to record my particular thanks to them for their efforts: Ruth Guthrie as Secretary, Clayson Howell as Treasurer, Mel Galbraith as Vice-President, Shona Myers as Immediate Past President, and John Sawyer, Laura Young, Chris Bycroft, and Isobel Castro as Councillors. John and Laura have spent much time on the new website, and Chris has covered all the Societies awards and grants. These are not small tasks. I wish also to thank Jon Sullivan as webmaster, and Susan Sheppard as our administrative secretary for their welcome contributions.

The last major event of the Society in this year is the Dunedin conference we find ourselves at now. Thanks to the organisers, particularly Deb Wilson, Gretchen Brownstein, Bill Lee (and a cast of thousands) for pulling together such an extraordinary gathering. Our position at the time of this conference appears to be one of increasing strength and size – more members, more assets, a journal with a higher impact factor, and greater societal relevance of ecology. Along with these advantages, also comes responsibility to manage the Society in an increasingly professional manner, again a challenge for the new Council.

Bruce Burns moved that the Presidents report be accepted as a true and correct record, Seconded Alan Mark, Carried.

Treasurer's report

Clayson Howell presented his report

The Society made a loss of just under $18,000 for the 12 months ended 31 December 2009. This was due to expenditure on significant long term items in 2009 and the society remains in a good financial position. Significant expenditure has included the redesign of the NZES logo, the design of the new web site, as well as travel grants for members to attend the 2009 Intecol Conference. It is

noted that the Intecol conference made a significant profit ($32,000) which will be realised within the 2010 financial year. Expenditure during the 2009 financial year also included the production of three issues of the journal in 2010. Funding for the Feathers to Fur issue was received in the 2008 financial year.

Clayson Howell moved that the treasurer's report be accepted as a true and correct record, Seconded Dave Kelly, Carried.

Membership and Subscription report

Ruth Guthrie's membership report was presented by Bruce Burns:

As at 19th November 2010 the total membership of the New Zealand Ecological Society is 685. This represents an increase in membership since 2009. Memberships increased across all categories, with full memberships (36 new members) and student/unwaged memberships (39 new members) accounting for most of the increase. The increase in memberships is encouraging given the slight drop in membership between 2008 and 2009.

Membership of the New Zealand Ecological Society as at 15th May 2009 (data from May 2009 in brackets provided as a comparison).

The total count of members includes those in arrears for this year with just over 80% of subscriptions paid at the time these statistics were generated. Journal subscriptions currently total 106 for 2010, which includes 18 complimentary subscriptions.

Category	Paid	Arrears this year	Total
Full	342 (269)	73 (107)	415 (376)
Joint	44 (37)	5 (15)	49 (51)
Unwaged	129 (79)	48 (62)	177 (141)
Overseas *	18 (15)	6 (13)	24 (28)
Honorary	10 (10)		10 (10)
Newsletter only	10 (8)		10 (8)
Total	553 (418)	132 (197)	**685** (615)

**Includes waged, unwaged and joint overseas subscriptions*

Bruce noted that society membership increases coincide with NZES conferences held locally in NZ. He raised the issue of membership fees. The NZES Council does not recommend an increase in subscriptions as the Society is in a good financial position.

Bruce Burns moved that the membership be accepted as a true and correct record, Seconded John Sawyer, Carried.

Journal Editor's report

K C Burns presented his journal editors report. The journal has done well this year. The number of citations has produced a good 2009 journal impact factor (1.13). He noted that this was a reflection of Peter Bellingham's work on the journal in previous years. It is not far behind Austral ecology which has an impact factor of 1.6. Three issues were published in 2010 as well as the Feathers to Fur edition. There will be 2 issues in 2011. He noted that submission rates for the journal are currently down. Two editorial members have stepped down and have been replaced. He asked the members for feedback on two matters: 1. the book review section will be moved to the newsletter. 2. the impact of the Short Communications section is much reduced, and he asked the members if it should cease to be published in the journal. The general feedback from members at the AGM was that it was a useful forum for opinion pieces which should be kept. Dave Kelly noted that in Notornis short communications are a useful record of unusual observations. The downside is that it reduces the impact factor of the journal. Forum articles in comparison will get cited a lot. There is a need for a balance between the different types of papers and articles. It was noted that the impact factor needs to be kept up to maintain subscriptions and to ensure papers are submitted.

Dave Kelly noted that it is not the purpose of the journal to compete with Nature. The target audience is New Zealand ecology. Members concluded that the quality of the short communication items should be used as the deciding factor in publishing them.

Newsletter report
Fleur Maseyk provided a brief report on the newsletter and thanked readers and contributors. Copies are now available on the new website. She has resigned as newsletter editor and Debra Wotton will be taking over. Shona Myers moved a vote of thanks to Fleur Maseyk for her work as editor of the newsletter since March 2008, Seconded Mel Galbraith, Carried.

Webmaster's report
Laura Young provided an update on the NZES website. The new website was launched a few months ago. Laura would like input from members on what needs to be on it. Changes she has recently made include a news page, updated links for ecologists, information on meetings and events, job vacancies and PhD positions.

Bill Lee commented that the development and maintenance of a conference website would be useful. John Sawyer noted that a conference module with credit card payment facilities could be bought and that Laura would be looking at this.

5. Election of Officers

President
Nominated Bruce Burns (Shona Myers/John Sawyer). Carried

Secretary
Nominated Ruth Guthrie (Fleur Maseyk/Mel Galbraith). Carried

Treasurer
Nominated Clayson Howell (John Sawyer, Deb Wilson). Carried

Vice President
Nominated Mel Galbraith (Dave Kelly/Colin Meurk). Carried.

Councillors
Three councillors (John Sawyer, Laura Young and Chris Bycroft) have one year remaining in office. There is one position vacant.

Nominated Fleur Maseyk (Shona Myers/Laura Young). Carried.

Trustees of Kauri Fund
Nominated Jacqueline Beggs and Mick Clout (Margaret Stanley/Deb Wilson). Carried.

6. General business

NZES council and volunteers
Dave Kelly proposed a vote of thanks to the volunteers on council and members who run the society including the journal, the newsletter, the accounts, and the annual conference. He noted the gains made by the society compared to 10 years ago. Membership is 685 in 2009 (c.f. 550 in 2000). In 2009 the society has $205,000 in the bank (c.f. $20,000 in 1997 and $57,000 in 2009). In 2009 the society has a 2.35 year financial reserve saved (c.f. 0.5 in 1997 and 1.1 in 2000). In 2010 there have been three issues of the journal published (c.f. 2 issues in 1997 and in 2000). In 2000 the conference had 230 participants and in 2010 360. The Dunedin conference has had the most participants ever at a NZ based NZES conference. The society is in good heart but it is important to keep membership up.

Dave Kelly noted that it is important to that the society is careful to ensure all new members are checked and accepted by council. Bruce Burns acknowledged this and noted that this is done at council meetings. It is important that council is run in an efficient manner.

EIANZ

Bruce Burns spoke about the launch of EIANZ – a new certification scheme for ecology specialists. It will be advertised in the newsletter and Ian Spellerberg will talk to council.

Honorarium for journal editor

Bruce Burns proposed that the journal editor's role needs to be evaluated and proposed a payment each year to ensure that good people are attracted to the position. The role is important in safeguarding the quality of journal. It was noted that editors of the RSNZ journals are paid $12,000K for 4 issues. He proposed a level of $5,000 per annum.

Discussion followed.

Deb Wilson questioned whether the amount was too low. Dave Kelly noted that the amount should not be a commercial rate and that it would show an appreciation for the job. Matt McGlone suggested that it could be given as a research grant. There was discussion about whether payment could start in the previous year. Dave noted that it should not be paid retrospectively. It was generally agreed that the proposed amount was acceptable and that the details could be worked out by the Council.

Bruce Burns moved that NZ Ecological Society establish an honorarium for the journal editor at a level of $5,000 with details to be worked out by NZES council. Seconded Matt McGlone. Carried

2011 conference

Bruce Burns discussed plans for the 2011 conference. The plan has been to join with the SEB (Society for Conservation Biology) conference in November 2011. There is concern that NZES would only have a small focus at this conference. It is useful for the Society to keep up its profile. The society also relies on a profit from the conference each year (the last loss from a conference was in 1980). Options include holding a separate conference in early September before the Rugby World Cup. The disadvantages of organising a separate conference include members needing to choose between an international and a local event, with only a short time to organise it. There was a lot of discussion from members about the options and the advantages and disadvantages of organising a separate conference.

Ian Jamieson noted that students and DOC staff only get to go to one conference a year. Jacqueline Beggs endorsed Ian's comments and noted that a September conference would clash with NZ Entomological Society conference in September (joint with the Australian society). Chris Bycroft noted that it is possible for a conference to be organised later in November with a gap between the two conferences. Colin Meurk suggested having a smaller one day NZES conference before the SEB conference. Mick Clout noted that there is a risk in having back to back conferences. People may choose to only go to one of them. John Sawyer noted that there have been a number of joint conferences and that the NZES conferences on their own are more powerful, and this meets the objectives of the society. Debra Wotton noted that some students do go to international conferences as well as local conferences. She noted that the student day is beneficial. Susan Wiser said that the student day and the NZES conferences was a good opportunity for students to present. Bruce announced that the NZES council would take on board members' comments and would make a decision.

The AGM closed at 6.30pm.

Present at 58th AGM

Members

Jacqueline Beggs, Kelly Booth, Larry Burrows, John Craig, Nicola Day, Shay Dean, Yanbin Deng, Thomas Etherington, Dave Forsyth, Jane Gosden, Stephen Hartley, Rod Hitchmough, Melissa Hutchison, Ian Jamieson, Rocio Jana, Dave Kelly, James Lambie, Bill Lee, Alan Mark, Matt McGlone, Colin Meurk, Laura Molles, Simon Moore, Jake Overton, Tim Park, George Perry, Margaret Stanley, Theo Stephens, J Sutt, Susan Walker, Deb Wilson, Debra Wotton, Sarah Wyse, Laura Young.

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(Effective from 23 November 2010)

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Next deadline for the newsletter is Friday 4 March 2011.

Unless indicated otherwise, the views expressed in this Newsletter are not necessarily those of the New Zealand Ecological Society or its Council.

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 (2010)

Full (receive journal and newsletter) .$75* 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.

Joint.....$75* per annum
Joint members get one copy of the journal and newsletter to one address.

Overseas Full .....$95* per annum

Overseas Unwaged.....$65* per annum

School.....$12 per annum

Educational institutions may receive the newsletter at the cost of production to stay in touch with Society activities. By application to Council.

There are also Institutional Rates for libraries, government departments etc.

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

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