NEW ZEALAND ECOLOGICAL SOCIETY

Newsletter

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FROM THE EDITOR

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Landcare Research, Lincoln
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First of all, my apologies to NZES members for the delay in producing this issue of the newsletter; recent events here in Christchurch have been somewhat disruptive! Thanks for your contributions, please keep them coming.

Biodiversity continues to be a topical subject and is the focus of a guest editorial in this issue by Ian Spellerberg and Jeff McNeely. Ian Spellerberg also introduces a newly launched scheme for the certification of ecologists, which will hopefully contribute to high professional standards within the ecological consulting profession. We are looking forward to the NZES annual conference, which this year will be held in Rotorua. It promises to be a stimulating and well organised event, with a number of key note speakers and relevant symposia lined up. The outstanding achievements of George Gibbs (recipient of the Te Tohu Taiao Award for Ecological Excellence in 2010) are summarised by K. C. Burns and Phil Lester, while Bruce Burns keeps the society in touch with events across the Tasman with his lively report on the recent ESA conference in Canberra. Readers may notice that minutes of recent NZES Council meetings have not been published in this issue of the newsletter. Instead, the newsletter has a brief summary of key items discussed at Council meetings, and in future members will also be able to follow a link from the newsletter to the full minutes on the NZES website.

The deadline for submissions for the next issue of this newsletter is 20 May 2011.

EDITORIAL

This article was first published in The Press, *Christchurch, Tuesday 14 December, 2010.*

IGNORE DIVERSITY AT EARTH'S PERIL

Climate change is in the headlines again but what about declining Biodiversity ask IAN SPELLERBERG and JEFF McNEELY

Yet another climate change meeting has just finished. In Cancun (Mexico) the U.N. Climate Change Conference closed on Saturday with some reports suggesting progress but without binding agreements. Once again climate change is headline news. In contrast, that equally if not more important environmental issue of biological diversity receives far less coverage in the media.

Back in October, I recall that for just one day there was fleeting news about the U.N. Biodiversity Conference in Nagoya, Japan. The media

INSIDE:

referred briefly to the comment "We are destroying life on Earth". This alarming claim was made by Achim Steiner (U.N. Under-Secretary General and Executive Director of the U.N. Environment Programme). He went on to say "The plants and animals, fungi and microorganisms that produce and clean our air, generate drinking water, hydro-power and irrigation; provide food, shelter and medicines and also bring to many joy and a spiritual dimension to our daily lives need a helping hand—if not for their sakes, but for ours."

That Conference comes in the Year of Biological Diversity. The aim is to help increase a greater understanding and awareness of nature and biodiversity issues. Climate change may be a concern but things are not looking good for nature and biological diversity! For example, an article published earlier this year in Science (April 2010), a prestigious international journal, reported that the 188 governments who agreed to achieve "a significant reduction in the rate of biodiversity loss by 2010" are going to fall woefully short of their target.

That article was a collaborative effort of leading experts on many aspects of biodiversity. They found that trends in species population size, their risk of extinction, extent of habitat, and the composition of plant and animal communities are all show continuing declines. Perhaps worse, levels of resource consumption, the number of invasive alien species, over-exploitation of many species were all found to be worsening.

But this is not for lack of effort by many individuals, organizations and governments. There have been increases in the number of protected areas, greater diversity in the kinds of habitats they include, increase in the area of forests that are being managed sustainably, growing policy responses to invasive alien species, and greater international funding for conserving biodiversity.

So what more can be done? We believe quite a lot can be done by individuals, organizations, business and regional and national governments. It sometimes seems that people are getting the blame for the continuing loss of nature, as leading consumers of natural resources, but people are also the solution

First, spend more time with nature, whether it be in a backyard garden or visits to national parks. New evidence suggests that children who spend too much time indoors, obsessed with their computer games, suffer from an insidious "nature deficit disorder." Studies reported by Richard Louv (Co-founder of the Children and Nature Network) led to his identifying this problem in his 2005 book ('Last child in the woods: saving our children from nature-deficit disorder'). He found that children who spend more time outdoors, are better adjusted to do better schoolwork, and live happier lives. Adults, too, gain multiple benefits from the many pleasures of enjoying the diversity offered by nature, including the health benefits from outdoor exercise and the psychological benefits that have been shown to come from the great outdoors. The famed Harvard University biologist Edward O. Wilson contends that humans have a natural affinity for nature, which he calls "biophilia." Finding more ways for people to connect with nature may lead to more of it being conserved.

Second, there needs to be more effective systems for monitoring the state of diversity at many levels of biological, ecological and genetic levels of organization. This is an extraordinary challenge and is probably the most practical at the species level. The goal is to create a "Barometer of Life" by using perhaps 150,000 species of plants, vertebrates, fish, and insects that are being regularly observed by scientists, protected area managers, and lay people – such as birdwatchers and gardeners. Here in New Zealand, the Biodiversity Recording Network (an online nature recording system) provides a valuable tool for people to report observations of wildlife. The provision of regular and reliable information will make it harder to ignore what is happening. Involving the public, schools and community groups in these monitoring efforts will help make this a part of local cultures based on local expressions of nature.

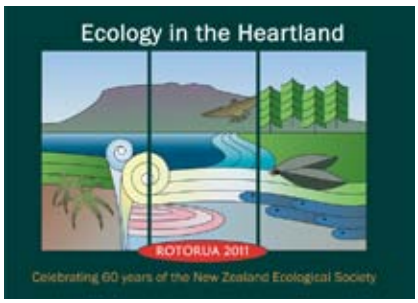
Third, and this might sound radical for some conservationists, but putting a price tag on nature could help conservation. A major international project, known as The Economics of Ecosystems and Biodiversity, is well on its way to producing a detailed report on this topic for a major meeting on biodiversity to be held in Nagoya, Japan, in October of this year. The Project has already included some interesting data. For example, from a 2004 New Zealand report, it is said that Department of Conservation spending and activities (that are dependent on Public Conservation Lands) form a significant part of the West Coast regional economy. Preliminary results claim that total output for all activities was estimated to provide 1,814 jobs (14.7% of total jobs on the West Coast region) and spending in the region of about N.Z.221.6 million per year (10.2% of total spending for the region). On the other side of the World, in the US, private spending on wildlife-related recreational activities amounted to US$122 billion in 2006. Numbers like this illustrate very clearly just how important nature and nature conservation is to our economies. We can not afford to ignore such valuable assets and we must protect them.

Finally, involve the private sector. Business need not lead to the destruction of nature, and can do just the opposite. Many resource-based industries, such as farming, forestry, fishing, and energy, now include biodiversity issues in their corporate planning. The services that ecosystems provide to these industries - such as clean water or genes for developing new varieties - are a form a natural capital that deserves investment and careful management to enable the natural capital to increase. Major retailers in Europe are now insisting that their suppliers use environmentally friendly forms of resource harvesting, often with certification such as that granted by the Forest Stewardship Council. Involving the private sector helps make conservation everyone's business.

It is a pity that news about the climate change debate continues to obscure what is possibly an even more important environmental issue and that is the continuing loss of the very thing that sustains us - nature's diversity.

Ian Spellerberg is Director of the Isaac Centre for Nature Conservation, Lincoln University. Jeff McNeely is based in Switzerland and is the senior science advisor for the International Union for Conservation of Nature.

NEW ZEALAND ECOLOGICAL SOCIETY CONFERENCE 2011



Willie Shaw and
Chris Bycroft
Conference Co-convenors

Rotorua, 28 August–1 September 2011

Ecology in the Heartland: Celebrating 60 years of the New Zealand Ecological Society

We look forward to seeing you in Rotorua in August 2011 for the 60th Jubilee of the New Zealand Ecological Society.

The 2011 New Zealand Ecological Society conference will be in Rotorua from 28 August to 1 September. This will be the third time the society has met for its annual conference in Rotorua, the previous occasions being 1962 and 1982. The theme for the conference will be Ecology in the Heartland: Celebrating 60 years of the New Zealand Ecological Society. 2011 is a significant year for the Society, being its 60th year as well as the 60th Annual Conference, and this will be celebrated at the 2011 Conference. The student day will be on Sunday 28 August, with three

days of concurrent sessions from Monday 29 August to Wednesday 31 August, and the field trips on Thursday 1 September.

We have an excellent venue for the conference, with a large central theatre and breakout rooms in a central location. Rotorua is a great place to visit, so bring your walking shoes, bikes, and binoculars. There are exciting ecological features within walking distance of the conference venue, as well as a good array of cafes and bars.

Joint meeting with New Zealand Society of Plant Biologists

We welcome the New Zealand Society of Plant Biologists, who will be joining us at the conference.

Conference theme

This year's conference is in Rotorua, in the Central North Island, and heartland ecology is a very appropriate theme. This theme can be looked at in various ways:

1. Where is the 'heartland' of New Zealand ecology?
2. What ecology is being undertaken in the 'heartland' of New Zealand?
3. What is the 'heartland' ecology of New Zealand?

The term 'heartland' generally refers to either the central (inland) area of a country, or an area of strategic importance. In New Zealand the heartland has meant a number of things, from heartland rugby teams (based around the less populated areas of New Zealand), small towns and rural areas, to economically important central places. The heartland of New Zealand ecology could mean different things to different people. To many, the heartland in ecology may be our premier National Parks, Conservation Parks, and offshore islands. It could be related to existing ecological values and lost elements of our biota. To others it will be the ecology in their backyards in urban and rural areas. Heartland ecology may have economic significance (e.g. tourism) to some people and to others the values will be more intrinsic (maintaining ecosystem processes and biodiversity). Heartland ecology could be, from some perspectives, parts of our remote country and, to others, urban areas where ecological values can be appreciated by more people. It can also mean inland ecology, but with most of New Zealand's economic zone being ocean we cannot forget these areas either. Perhaps, with the increased urbanisation in New Zealand, the heartland of New Zealand is now our urban areas.

Rotorua is a great place to discuss current issues related to ecology in the heartland. Rotorua is within the "heart" of the Taupo Volcanic Zone and is ecologically famous for its nationally rare geothermal ecosystems. When people talk of Māori culture in New Zealand, Rotorua is often one of the first places mentioned. The Rotorua area is one of the major tourist centres of New Zealand, and ecotourism is important to the region particularly in geothermal areas. Water quality in the Rotorua lakes is now a major issue in Rotorua in local, regional, and national political forums. Rotorua has an interesting mix of land uses, including exotic plantation forestry, farming, urban, and the use of local resources for energy generation. Like much of New Zealand, Rotorua has experienced significant loss of natural ecosystems to land uses such as farming, plantation forestry, and urban development. The management of remaining significant habitats and restoration, or creation of new habitats to replace the previously destroyed habitats, has been undertaken in range of ecosystems in the central North Island.

Conference logo

This conference logo represents the ecological diversity of the Rotorua region, including Mt Tarawera, kārearea (NZ falcon), trees representing indigenous and/or plantation forests (2011 is the United Nations International Year of Forests), mangaeo leaves and fruit, a geyser and the pink terraces, and the fish are kōaro.

Sponsorship

We are interested in hearing from any potential sponsors for the conference. If you wish to offer sponsorship, or have any key contacts in any organisations that may be prepared to sponsor some aspect of the 2011 conference, please forward your suggestions to willie.shaw@wildlands.co.nz

Symposia

We have a number of symposia proposed for the conference, some of which are more developed at this stage. Symposia that are all but confirmed include:
Landscape Ecology
Mires Matter: Wetland Science 50 Years On
Bryophyte Ecology
Community Group Ecology
Pacific Island Ecology
Plant Physiological Ecology
Forest Ecology (2011 is the United Nations International Year of Forests)
Several other symposia may still be developed if there is enough interest. These could include:
Biodiversity, Ecology, and Management in Plantation Forests,
Ecology of Volcanic/Geothermal Areas
Restoration Ecology
Māori theme/Nga Whenua Rahui
Mainland Islands (we already have some suggestions based around Te Urewera Mainland Island Project)
Freshwater Ecology
Tourism/Ecotourism and Ecology
Global Change/Climate Change
Natural Disturbance
Ecological Indicators

If you are interested in organising or helping with any of these symposia, or would like to organise another symposium not listed above, please contact chris.bycroft@wildlands.co.nz.

Conference website and call for abstracts

The conference website is due to be up and running by 15 April 2011. From this date it will be possible submit abstracts for oral presentations and posters and find out more details about registration. An email reminder to members will go out when the website is live.

Field trips

We have an exciting range of field trips planned, which include geothermal sites, lakes, bird conservation, Mokoia Island, production landscapes (plantation forests), and podocarp forests at Whirinaki.

TE TOHU TAIAO AWARD FOR ECOLOGICAL EXCELLENCE: DR. GEORGE W. GIBBS

K.C. Burns & Phil Lester
Victoria University of Wellington

George W. Gibbs took a very early interest in ecology under the guidance of his grandfather, G.V. Hudson, who was one of New Zealand's earliest and most influential natural historians. George went on many insect collecting trips as a boy and marvelled at his grandfather's collections. These early experiences started George on a long and productive career in ecological entomology.

George has had a long relationship with Victoria University of Wellington, graduating with a BSc in 1959, and an MSc in 1961. He then spent three and a half years doing a PhD at Sydney University with Professor L.C. Birch before returning to Victoria University of Wellington to a lecturing position in 1965. Since this time George has remained at this university. He retired in 2000, but has continued teaching his Flora & Fauna course, which has long maintained a reputation as one

of the best courses in the School of Biological Sciences. Not only is it popular with those who take it, but also with the teaching assistants, and every year graduate students fight to determine who will be demonstrating the course.

George pursued a career researching butterflies, tiny moths, weta, and in particular the origin and evolutionary background of our flora and fauna. He is the author of five books on these topics. His first book, "New Zealand butterflies", published in 1980, remains the foremost reference on butterflies in New Zealand, even today 30 years after its publication. His most recent book is the Montana Award winning publication "Ghosts of Gondwana: The History of Life in New Zealand" (2006), which was based on the lecture notes of his popular flora and fauna course. This book has received wide acclaim as essential reading for anyone interested in the natural history of New Zealand. Before, in between and after these books, George has published widely in journals, including the prestigious journal Science, on topics such as the insect-pollinator interactions. He continues to be an active researcher, especially in moth taxonomic and phylogenetic studies, combining molecular and morphological techniques. His dedication to research is exemplified in a 6-year mark-recapture dataset on the tree weta population of Somes Island, which has and is providing unique insights into the mating and movement behaviour of weta populations on Somes Island. George keeps on producing: a book on Monarch butterflies is scheduled, co-authored with Lisa Berndt and Steve Pawson.

George, if your grandfather were alive today, he would be very proud of the quantity and quality of the contribution that you have made to ecological research in New Zealand. It is our pleasure to nominate George W. Gibbs Te Tohu Taiao Award for Ecological Excellence.

Dr. George Gibbs, recipient of the Te Tohu Taiao Award for Ecological Excellence in 2010.

CONFERENCE REPORT

Bruce Burns

Canberra in the rain: Ecological Society of Australia conference 2010

I felt myself fortunate to attend the 2010 annual conference of ESA in Canberra from December 6–10 last year. Fortunate as our sibling society was celebrating its 50th anniversary and there was cake, and fortunate because Canberra and surrounding territories were experiencing unprecedented rain, so the countryside was unusually green not brown. Because of the rain, several of the conference field trips had to be re-routed to avoid some areas of flooding (a forewarning of things to come in January this year) and participants often were caught in torrential downpours when walking outside the conference venue at ANU. Many of the Australians seemed puzzled by water falling from the sky, but I was able to reassure them that I'd seen this before and it wouldn't hurt. Of course, many of the ecologists at the conference were excited by the once-in-a-decade/lifetime weather conditions that would trigger many ecological events in their ecosystems of study, and couldn't wait to get back out to see what had happened.

In common with the record attendance at our 2010 conference, ESA10 attracted more participants than any previous ESA conference; approx. 750. With membership numbers around 1500, publishing 2 journals, and fostering several active initiatives to promote ecology in Australia (e.g., an indigenous engagement forum at the conference), ESA is definitely in good spirits. The 50th anniversary allowed the Society to reflect on its history and heritage, and the globally notable ecologists that have embellished it's ranks over time, e.g., Nicholson, Andrewartha, Birch, May, and Caughley (the last a New Zealand adoptee). However, the main focus of the conference was on the impact of climate change on biodiversity, a concern that appears to be taken much more seriously by federal and state governments in Australia than in New Zealand. Several initiatives to understand and adapt to the consequences of climate change and for long term ecological monitoring were advertised at the conference, e.g. the National Climate Change Adaptation Research Plan for Terrestrial Biodiversity (http://www.nccarf.edu.au/sites/default/files/TB%20NARP%20Final.pdf) and the Terrestrial Ecosystem Research Network (www.tern.org.au). I don't know of any similar initiatives in New Zealand, and these Australian projects deserve scrutiny for their potential New Zealand application or participation.

There was an impressive line-up of plenary speakers, e.g., Charles Krebs, Hal Mooney, Richard Hobbs, most of whom outlined in stark and sobering detail the major environmental and ecological challenges facing the planet over the next 50 years. Perhaps one of the best was from Prof. Corey Bradshaw of Adelaide who has combined demographic, genetic, landscape and economic data in models to inform invasive species management and estimate impacts of humans on biodiversity. The plenaries were somewhat of a 'call to arms' for Australian ecologists. It was motivating to hear how ecologists can contribute to global issues, but daunting to realize how large those issues and their consequences are likely to be.

There was a range of excellent symposia and paper sessions outside the plenaries covering familiar topics such as invasive species, urban ecology, and conservation in agricultural landscapes. One of the symposia and a fieldtrip highlighted the Mulligan's flat – Goorooyarroo grassy woodland restoration experiment (http://people.anu.edu.au/adrian.manning/mulliganssanctuary.html) which has been set up on the outskirts of Canberra. This is a collaboration between researchers at Australian National University, CSIRO and the ACT Government to restore a critically-endangered box-gum grassy woodland ecosystem by manipulating ecological processes. Some of the treatments include adding tonnes of coarse woody debris or not, different burning treatments, and kangaroo exclusion or not. Half of these treatments are nested within a feral-animal proof fence (similar to fences at Karori or Maungatautari) which is being

used to reintroduce some locally extinct species. One of these reintroduction projects targets the return of Tasmanian bettongs to this forest. Bettongs are partly mycophagous marsupials (largely truffle-eaters) that were eliminated on the Australian mainland by exotic predators but survived in Tasmania. Their excavation for truffles (estimated as turning over 5 tonnes of soil per year per individual) probably had significant ecosystem effects in terms of soil characteristics (akin to cultivation) and dispersing mycorrhizal fungal spores. This discussion made me wonder what the nature and importance of mycophagous communities was in New Zealand ecosystems past and present?

My contribution to the conference was a paper on the importance of tree ferns in New Zealand forest ecology - an emerging research area of mine. I took the opportunity to present some new data on height growth rates in Coromandel forests (Cyathea dealbata mean: 8 cm/yr, range: 3.3-12.3 cm/yr). With tree ferns also a common component of south-eastern Australian forests, there was surprising interest in this topic.

The conference dinner was in the Old Parliament House, now a significant heritage building in Canberra. Amongst the many distinguished portraits of portly and stern 19th century Australian prime ministers, I was struck by the huge portrait of John Howard in a Hawaiian shirt and shorts standing with his wife on a beach – truly bizarre. Before dinner, handlers wandered amongst the guests with a range of small furry marsupials and reptiles, but gratefully none of these critters were then served for dinner.

Overall, although New Zealand ecosystems are generally more mesic than the Australian, I was reminded of how ecological principles still hold across ecosystem types, how much we have in common with our Australian neighbours, and how much we could learn from each other. The two societies hold a joint conference every 4 years, but I urge the New Zealand Ecological Society to explore ways to foster further regular interactions with our neighbours, and would encourage New Zealand ecologists to sample the Australian annual conference occasionally; especially if you like lamingtons for morning tea.

The truffle-eating Tasmanian bettong is being reintroduced to Mulligan's Flat. (Source: http://wildlifetasmania.com/bettong.html)

FEATURE ARTICLE

Ian Spellerberg

CERTIFICATION FOR ECOLOGISTS, A MAJOR MILESTONE FOR THE ECOLOGY PROFESSION, FOR ECOLOGISTS AND FOR THE ENVIRONMENT

For the first time, it is now possible for ecologists in New Zealand and Australia to apply for certification under the Certified Environmental Practitioner Programme (CEnvP). This has come about as a result of demand from ecologists and certified environmental practitioners. A major initiative of the Environment Institute of Australia and New Zealand (EIANZ) was the establishment of the CEnvP. That Programme is now administered independently from the EIANZ and it is not necessary to be a member of the EIANZ to seek certification. There has been good growth in the numbers of environmental practitioners applying for CEnvP and at present there are over 320 certified practitioners in New Zealand and Australia. The criteria for the CEnvP were deliberately made very generic to cater for the wide range of specialist disciplines in the environment profession. However, it was always recognised that this was just a first step towards helping to ensure the highest possible standards of practice and ethical behaviour amongst environmental practitioners. There was always the intention that there would be certification made specific for specialist areas. After two years of discussion (involving many ecologists in New Zealand) and several workshops in Australia and New Zealand, specialist criteria have now been established for two areas: ecology and for impact assessment.

The details of the criteria and information about the application process may be found on the CEnvP website www.cenvp.org or email info@CEnvP.org for more information. In addition to a C.V. and statement of ethical conduct, applicants for the ecology specialisation must have ten years of ecology practice, they must commit to continuing professional development, and they must provide a testimony of how they have achieved key proficiencies for practising ecologists. I very much hope that the New Zealand Ecological Society will embrace and support this major milestone. It has been a long time in coming but going on the interest already shown by some ecologists in New Zealand, I am confident that we will start to see successful applicants in 2011.

The following information is from the Ecology Specialist application guidance notes available online at www.cenvp.org

Minimum criteria for ecology specialist certification

The Ecology Specialist requirements are:

- An ecology related degree and evidence thereof.
- Ten years of full-time experience in the functional areas of environmental practice during the last fifteen years.
- Nomination by three respected professionals who are willing to support application. At least two must be ecologists. All must be prepared to vouch for the candidate's skills and knowledge; and that the candidate is a respected competent, ethical and active member of the ecology profession.
- Evidence that the candidate is a respected, competent, ethical and active member of the profession in the form of at least two referee statements (with at least one external to current place of employment), a detailed curriculum vitae, reports, publications, citations, conference/seminar presentations, etc.
- Evidence of and ongoing commitment to training and professional improvement (in the order of 100 points of training, professional improvement, service to professional practice over a two year period).
- A signed and witnessed statement of claim covering qualifications, experience, ethics, commitment and the accuracy of the materials provided to the Certification Board.

- A brief (no more than four sides of A4) personal testimony, describing how the candidate believes they achieve the six key proficiencies for practising ecologists.

CEnvP Ecology Specialist certification does not differentiate between 'types' of ecologist, however, candidates are expected to apply based on their specific skills and role within the ecological community, whilst meeting general requirements. Certification will be limited to the following two types of ecologist, field ecologists (technical) and managerial ecologists/ ecological impact assessment (generalist), and based on a candidate's ability to meet the following additional criteria:

Field Ecologists (technical)

- The candidate should provide evidence of having gained significant experience in at least one specialist field.
- This evidence should be backed up by at least one of the two referee statements.

Managerial Ecologists/Ecological Impact Assessment (generalist)

- The candidate should give evidence of having kept up skills in at least one specialist field of their own (even if they do not regularly undertake field work).
- This evidence should be backed up by at least one of the two referee statements.

Six key proficiencies of ecology specialists

Through the written application and assessment interview an applicant should be able to demonstrate the following key proficiencies of ecology specialists.

Professional practice

1. Plan & engage in continuous learning (general)
   - Does voluntary field work / field time
   - Attends identification workshops or short courses related to ecology.
   - Continues specialised skill development throughout career.
   - Broadens skill base throughout career.
2. Use appropriate information technology and techniques
   - Is proficient in the use, setup and maintenance of survey equipment including GPS.

Environmental awareness

3. Understand environmental values, current principles and frameworks
   - Is able to define ecological terms such as biodiversity, resilience, habitat etc.
   - Has an intrinsic regard for the environment and wildlife.
   - Understands the cultural context of ecology i.e. why are things particularly important?
   - Understands how ecology sits within Ecologically Sustainable Development.
   - Understands key principles of ecological theory e.g.: Source-sink models, Population and community ecology

Analysis and assessment

4. Identify impact sources, use appropriate environmental tools/ techniques/ methods, and compile relevant information
   - Has a 'connection' with given locations e.g. observation skills, knowledge and experience of particular geographic areas.
   - Ability to develop statistically rigorous survey, impact and monitoring programs
   - Has a robust understanding of survey techniques, including:
   - The ability to critique techniques and select those that are appropriate;
   - The ability to design surveys; and

- An awareness of methodological bias and limitations.
- Demonstrates an appropriate skill level and knowledge in relation to their chosen specialist area.

5. Analyse data, assess its reliability & accuracy, interpret and present
   - Has a technical ability to manage data, analyse data and use appropriate statistical techniques.
   - Knows how to interpret ecological data to reveal trends, and to establish positions and judgement about what this means.
   - Knows the difference between reporting facts and making an interpretation.
   - Understands the limitations of uncertainty in ecology e.g. there can be no proof, and understands how to treat this uncertainty.
   - Demonstrates capability in interpretation of the reliability and accuracy of data.
   - Can present findings in a graphical, targeted, oral, verbal, written and visual way.
   - Understands the relationship between ecology and risk assessment.
   - Understands the various types of qualitative and quantitative 'models' that are used in making ecological predictions.

Environmental policy and planning

6. Plan, implement, evaluate and improve systems, policies and procedures. Understand, assess conformance to and design regulatory frameworks, accountabilities and standards for policies & activities
   - Knows or knows how to find out about laws, guidelines and policy.
   - Has a working knowledge of international laws and conventions (e.g. ramsar, CBD).
   - Is up to date with ecological best practice.
   - Has a broad understanding of ecology in environmental planning and assessment.
   - Understands ecological principles in a way that will enable policy and procedure development.
   - Is familiar with ecological impact assessment principles and practice.
   - Is able to prepare terms of reference, procedures, reports and manage / monitor impact and risk assessments.

NOMINATIONS FOR NZES AWARDS 2011

TE TOHU TAIAO – AWARD FOR ECOLOGICAL EXCELLENCE

Nominations are invited for the Te tohu taiao award (formerly NZES award). This award is presented annually to recognise individuals who have made outstanding contribution to the study and application of ecological science. The award is made to the person(s) who have published the best original research in ecology of New Zealand, and its dependencies (including the Ross Dependency) or person(s) who have made the most outstanding contribution to applied ecology particularly conservation and management. NB. This award used to be presented to members only but a council decision in 2006 supported the recommendation to make non-members eligible.

Please email any nominations for this award to Ruth Guthrie, Secretary@nzes.org.nz by 30 May 2011. Nomination should also include a statement of support.

HONORARY LIFE MEMBERSHIP

Honorary life memberships are conferred from time to time to recognize excellence and longstanding service in the study or application of ecological science in New Zealand. Nominations should be presented to council, seconded and must include statements of support. The selection committee will consider candidates' eminence in the scientific field and contribution to original research

or the application of such research in New Zealand and the extent of their association with the Society.

Please email any nominations for this award to Ruth Guthrie, Secretary@nzes.org.nz by 30th May 2011. Nomination should also include a statement of support.

NZES AWARD FOR BEST PUBLICATION IN THE NEW ZEALAND JOURNAL OF ECOLOGY BY A NEW RESEARCHER

the NZES awards an annual prize of NZ$1,000 for the best published paper of an ecological nature, by a new researcher in the New Zealand Journal of Ecology. This award is targeted at people at the start of their research career. The award will be announced at the Ecological Society's annual conference, and reported in the NZES newsletter as well as being posted on the NZES website. Authors wishing to be considered must meet the following criteria:

- Be the senior author or sole author of the paper
- Provide a short statement identifying the role each of the authors had in the publication
- Be a current member of the New Zealand Ecological Society
- Either currently be a student or have graduated within the last three years (for this year's award the applicant must have graduated after 30 June 2008), and be at the start of their research career.
- The paper **must** be published in the New Zealand Journal of Ecology.
- Only one paper per eligible author.

Authors wishing to be considered for this award should send 4 copies of their publication by 30 May 2011 to Ruth Guthrie, 686 Takaka Valley Highway, Uruwhenua RD1, Takaka 7183, or email Secretary@nzes.org.nz. All applicants should supply a contact email and postal address and a summary to confirm they meet all the criteria for this award. All publications will be reviewed by a committee nominated by the NZES council. At the discretion of the nominated committee no award may be made in any given year.

NZES ECOLOGY IN ACTION AWARD

This award was established to recognise individuals who are achieving excellence and best practice in the promotion of ecology, including communication, education and transfer of ecological science at the grass roots. The Society would like to recognise work of individuals achieved in promoting ecology and education at a local government level, with landowners, community groups, politicians and councils. This award is for individuals, whose role is primarily the transfer of ecology and research, but who are not necessarily involved in pure ecological research. This award reflects one of the primary aims of the society that includes promotion of the study of ecology and the application of ecological knowledge in all its aspects. The society also recognises that the transfer of ecological knowledge at a community and local government level is important in changing behaviours and achieving practical protection and restoration of biodiversity, particularly of our threatened lowland ecosystems.

The Society offers recipients:

1. $500 contribution towards attending the next NZ Ecological Society Conference;
2. $500 prize to the recipient.

Recipients of the award are invited to present a paper at the next annual NZ Ecological Society Conference. The work can also be given profile via a media item, or highlighted in the NZ Ecological Society newsletter. Nominations for this award should be emailed directly to Ruth Guthrie, Secretary@nzes.org.nz by 30 May 2011.

NZES STUDENT CONFERENCE AWARDS

Best student NZES Conference Paper

The society makes an annual award to the student who is judged to have presented the best oral paper at the Society's annual conference. The award comprises

- One year's free membership of the society
- A certificate
- A prize of NZ$750

A second place award may also be presented for NZ$400.

All papers (including joint papers) presented solely by students at the main conference are eligible for consideration.

Note: this award does not consider papers presented at the student session of the conference or papers presented by individuals who have been graduates for more than twelve months.

Best student NZES Conference Poster

The society makes an annual award to the student (senior author) who is judged to have presented the best poster at the Society's annual conference. The award comprises

- One year's free membership of the society
- A certificate
- A prize of $400.

Note: *posters presented by individuals who have been graduates for more than twelve months are not eligible for the award.*

Student Travel Grants

Travel Grants are awarded annually to encourage student participation at the Society's annual conference. All bona-fide postgraduate students enrolled at a tertiary educational institute are eligible. Membership to the society is not required.

Up to eight grants with a value of **$400** each are available and priority is given to those presenting papers at the main conference and those who have furthest to travel. Applications for this award should be emailed directly to Ruth Guthrie, Secretary@nzes.org.nz by 30 May 2011.

Applications should include a statement of support from an appropriate staff member indicating why the applicant is a worthy candidate for a Student Travel Grant. Please also indicate in your application if you are presenting a paper or a poster at the conference, as well as your tertiary institution.

EVENTS UPDATE

NEW VENUE AND DATES FOR INTERNATIONAL CONGRESS FOR CONSERVATION BIOLOGY 2011 & CALL FOR ABSTRACTS

Amy Whitehead

5–9 December 2011,
Auckland, NEW ZEALAND

On 22 February 2011, Christchurch experienced a severe earthquake that damaged the infrastructure of the city. Due to the temporary closure of the Christchurch Convention Centre, we have moved our meeting venue for the 25th International Congress for Conservation Biology (ICCB 2011) to the Sky City Auckland Convention Centre with new dates: 5–9 December 2011.

Auckland is New Zealand's largest city and is located at the top of the North Island. It is the major entry point into New Zealand and is well serviced by international and national flights. The Sky City Auckland Convention Centre is located in the city centre and is within easy walking distance of a wide range of lodging and restaurants. It also makes the ideal starting point for pre- and post-conference trips and holidays. New Zealand is a country with vast open spaces,

stunning rugged landscapes, pristine beaches, and a fascinating variety of animal and plant life. A temperate climate and varied ecosystems make New Zealand an ideal location to see conservation science in action.

Damage from the earthquake is restricted to the city of Christchurch, and even within the city the damage has been local. The rest of the country is undamaged and as much a delight to explore as always. The Local Organizing Committee has gone above and beyond the call of duty to secure a new venue. They are undaunted in their enthusiasm and commitment to hosting ICCB 2011 in Auckland this December. The Committee looks forward to welcoming you to New Zealand!

Please visit our website for the most current information on the meeting (www.conbio.org/2011). We will be updating it regularly over the next few weeks to bring you the latest information on the venue, accommodations, conference trips, social events, and more.

Sponsor a student

Many SCB student members in Christchurch suffered financial loss and some are homeless as a result of the earthquake. If you or your institution would like to help sponsor a student's attendance at ICCB 2011 in Auckland please contact 2011sponsors@conbio.org for more information.

Our thoughts are with our Christchurch colleagues who are already engaged in rebuilding Christchurch and who continue to dedicate themselves to preserving biodiversity in New Zealand and around the world.

ENVIRONMENTAL LAW & REGULATION REFORM CONFERENCE

Providing an analysis of New Zealand's environmental laws and regulations, and the direction of future changes

27-28 April 2011, Duxton Hotel, Wellington

Environmental Law is one of the most rapidly changing fields in the legal profession. Understanding the changing legal environment is crucial for you to balance the needs of the economic requirements of your community to protect the environment.

With case studies from local authorities and legal updates from leading law firms, this forum will give you the vital information you need to ensure compliance with legislations and examine the future of environmental law and regulation in New Zealand.

Attend this forum and gain new knowledge that can be taken back and applied to your own Environment Management Systems. Some of the topical issues that will be examined:

- Phase two RMA Reforms
- The Bedding in process of the first phase of the RMA Reform
- The role of the Environment Protect Agency
- Working with new consenting processes

Learn how the designation process works and how your organisation can use it

Special offer

NZ Ecological Society members are eligible for a special 10% discount off the conference price. To register at the discounted rate, please enter the online booking code 9J9DXE in the "Promotion Code" field.

This is a not-to-be-missed event so reserve your place today by calling 09 912 3612 or register online at www.conferenz.co.nz/conferences/environmental-law-regulation-forum.

CHARLES FLEMING LECTURE TOUR 2011

The Charles Fleming Lecturer who will tour New Zealand during March, April and May 2011 is Professor Sir Alan Mark from the Department of Botany, University of Otago. Professor Mark's talk will be "Mountain tops to ocean depths: involvement with a range of ecological/environmental issues, mainly in the south."

The itinerary for the lecture tour is available at: www.royalsociety.org.nz/programmes/awards/fleming/charles-fleming-lecture-tour/. It includes lectures in Otago, Nelson, Hamilton, Canterbury, Hawke's Bay, Manawatu, Auckland, Wellington and Rotorua.

THE ART OF SCIENCE EXHIBITION

Some of New Zealand's most distinguished scientists feature in a new exhibition which opened on 31 March at the New Zealand Portrait Gallery in Wellington. 'The Art of Science' is an exhibition of the private collection of the Royal Society of New Zealand portraits of prominent New Zealand scientists, including Alan MacDiarmid, Paul Callaghan and Maurice Wilkins.

The exhibition marks the first time that this significant collection of portraits has been shown publicly. As well as 55 paintings, it has interpretive text telling the stories of the scientists, their innovations and successes. It also features a DNA portrait of a prominent New Zealand scientist, and is one of the first times that a DNA portrait has been shown in New Zealand.

The Art of Science is curated by award winning science writer and historian Rebecca Priestley. Following on from the Wellington showing, the exhibition will be touring New Zealand until 2013.

The exhibition runs from 31 March – 22 May, Shed 11, Wellington Waterfront, 10.30 a.m. – 4.30 p.m. daily. Admission is free. To find out more: www.royalsociety.org.nz/events/2011-year-of-chemistry/the-art-of-science/

ECOTONES – NEW ECOLOGICAL RESEARCH

A selection of newly published research on or relevant to New Zealand ecology (except that published in the New Zealand Journal of Ecology).

Instigating a baby boom of threatened skinks

A novel strategy for helping increase the reproductive output of threatened skinks is in progress in New Zealand led by Frank Molinia of Landcare Research. Frank and his colleagues are developing techniques for artificial insemination of the relatively abundant McCann's skink (Oligosoma maccanni) with the expectation that these techniques will then be transferable for use on the critically endangered and closely related grand and Otago skinks (O. grande and O. otagense) (Molinia et al. 2010). So far, a reliable method of collecting sperm from male McCann's skink has been developed based on a lower abdominal massage technique, and the team is developing experience in evaluating sperm quality and in short-term storage. Such sperm was used in an initial trial of artificial insemination of 10 female McCann's which resulted in probable pregnancies but no eventual offspring due to several unexpected factors (e.g. disease) which the team hope to control in future trials. If artificial insemination is possible, then this would offer a new tool to increase captive breeding and genetic management of animals for release in safe havens in the wild, and hold out new hope that extinction of these species can be prevented.

Molinia FC, Bell T, Norbury G, Cree A, Gleeson DM 2010. Assisted breeding of skinks or how to teach a lizard old tricks! *Herpetological Conservation and Biology 5*: 311-319.

Tree fern species are not ecologically equivalent

Tree ferns are a highly characteristic and important component of New Zealand lowland forests. They are increasingly being recognised as keystone species because of their effects on tree regeneration processes through shading and their trunks acting as seedling establishment sites. Many aspects of their ecology, however, are still poorly understood. Bystriakova et al. (2011) present new data on populations of 5 species of tree ferns (*Cyathea cunninghamii*, *C. dealbata*, *C. medullaris*, *C. smithii*, and *Dicksonia squarrosa*) followed in 2.25 ha of forest in the Orongorongo Valley for 38 years. Growth, mortality and recruitment rates varied considerably among the different species. For height growth, *C. medullaris* had the highest mean rate (11.5 $cmyr^{-1}$) and *C. dealbata* the lowest (3.2 $cmyr^{-1}$). There was an interesting spatial segregation between *C. dealbata* and *C. smithii*, which may reflect niche differentiation of these species in the gametophytic stage. Population structures among the ferns varied from those that showed non-continous regeneration, to those that showed more regular recruitment. Periods of recruitment did seem to correlate with known past disturbance events. Different species of tree fern also showed strong differences in leaf physiological characteristics relating to their variable ability to grow in shade. Coexistence of this diversity of tree fern species is probably facilitated by life history differentiation along a fast-slow growth axis reflecting such differences in shade tolerance.

Bystriakova N, Bader M, Coombes DA 2011. Long-term tree fern dynamics linked to disturbance and shade tolerance. *Journal of Vegetation Science 22*: 72-84.

New Zealand bumblebees valued for UK conservation

A major focus of ecology in New Zealand is in reducing the populations and negative impacts of the plethora of introduced species now resident. Increasingly, however, some of these species are now rare or extinct in their original native habitats overseas, and the conservation value of the New Zealand populations becomes high. One such example is the bumblebee Bombus subterraneus, introduced to New Zealand from the UK with a range of other bumblebee species about 120 years ago, and still present in central South Island. This species was declared extinct in the UK in 2000, and an attempt to reintroduce it to the UK is underway using New Zealand bees. Lye et al. (2010) examined foraging of bumblebee species in New Zealand including B. subterraneus to inform this reintroduction process. Bumblebees in central South Island forage almost exclusively on non-native plants (in this paper, only 1 of 28 plants foraged by bumblebees was native) and 96% of foraging occurred on 6 species (Scotch thistle, viper's bugloss, St. John's wort, red clover, lupin, and birdsfoot trefoil). Interestingly, some of these plant species are also in decline in the UK. The different species of bumblebee tended to have periods of peak activity at different times of day as a type of niche partitioning.

Lye GC, Kaden JC, Park KJ, Goulson D 2010. Forage use and niche partitioning by non-native bumblebees in New Zealand: implications for the conservation of their populations of origin. *Journal of Insect Conservation 14*: 607-615.

Can increasing honeydew assist lizard restoration in Auckland?

On Korapuki Island (Mercury Island group), both common and Duvaucel's geckos (*Hoplodactylus maculatus* and *H. duvaucelii*) have been observed feeding on honeydew produced by the scale insect *Coelostomidia zealandica* on ngaio (*Myoporum laetum*) and karo (*Pittosporum crassifolium*). Gardner-Gee and Beggs (2010) have just published research indicating that these lizards regularly use this sugar resource on Korapuki and suggest that it may be an important component of their diet. They also surveyed for the presence of this scale insect (and therefore the honeydew) in coastal forest at 25 sites across the Auckland Region, finding it at only 9 of those sites and never in the heavy infestations observed on Korapuki. Although the greatest limiting factor to restoration of these gecko populations is almost certainly over-predation by mammalian pests, on sites where this is

mitigated, the need to provide adequate food resources could lead to efforts to restore and promote a honeydew-gecko foodweb. This research highlights the need for restoration ecologists to consider ecological processes and the links between species.

Gardner-Gee R, Beggs JR 2010. Challenges in food-web restoration: an assessment of the restoration requirements of a honeydew-gecko trophic interaction in the Auckland Region, New Zealand. *Restoration Ecology 18*: 295-303.

What bottleneck size leads to increased inbreeding depression?

As the number of individuals in endangered species populations declines, the risk of inbreeding depression on individual fitness is thought to increase. In birds, this is often seen by increases in hatching failure. In most normal populations, hatching failure is about 10% whereas in small populations it can increase to 50%. Heber and Briskie (2010) from the University of Canterbury have recently used an international dataset to examine this hypothesis, i.e., that hatching failure increases with tighter bottlenecks (smaller minimum population size). Using data from 51 bird species, they found a significant inverse relationship between these variables. This result was consistent over a wide taxonomic range and for island and continental species. As well, the result was unaffected by taking into account shared ancestry, clutch size, time since bottleneck or body mass. They also found that below a population size of about 150 individuals all species experienced higher levels of hatching failure. This result has important implications for the conservation of threatened bird populations and for establishment of new populations by reintroduction in setting general limits for population size necessary to avoid this effect.

Heber S, Briskie JV 2010. Population bottlenecks and increased hatching failure in endangered birds. *Conservation Biology 24*: 1674-1678.

HOT SCIENCE

What's hot in NZ ecological research

Cascading effects of bird functional extinction reduce pollination and plant density

ANDERSON S. H., KELLY D., LADLEY J. J., MOLLOY S. & TERRY J.

Reductions in bird numbers could hamper ecosystem services such as pollination, but experimental proof is lacking. We show that functional extinction of bird pollinators has reduced pollination, seed production, and plant density in the shrub *Rhabdothamnus solandri* (Gesneriaceae) on the North Island ("mainland") of New Zealand but not on three nearby island bird sanctuaries where birds remain abundant. Pollen limitation of fruit set is strong [pollen limitation index (PLI)=0.69] and significant on the mainland but small (PLI = 0.15) and nonsignificant on islands. Seed production per flower on the mainland is reduced 84%. Mainland sites have similar adult densities, but 55% fewer juvenile plants per adult, than island sites. Seed addition experiments near adult R. solandri plants on themainland found strong seed limitation 5 years after sowing for R. solandri but not for two other co-occurring woody species. This demonstrates a terrestrial trophic cascade.

This article was published in Science 331 (6020): 1068–1071 (2011).

Frugivore loss limits recruitment of large-seeded trees

WOTTON D. M. & KELLY D.

Although global declines in frugivores may disrupt seed dispersal mutualisms and inhibit plant recruitment, quantifying the likely reduction in plant regeneration has been difficult and rarely attempted. We use a manipulative factorial experiment to quantify dependence of recruitment on dispersal (i.e. fruit pulp removal and movement of seed away from parental area) in two large-seeded New Zealand tree species. Complete dispersal failure would cause a 66 to 81 per cent reduction in recruitment to the 2-year-old seedling stage, and synergistic interactions with introduced mammalian seed and seedling predators increase the reduction to 92 to 94 per cent. Dispersal failure reduced regeneration through effects on seed predation, germination and (especially) seedling survival, including distance- and density-dependent (Janzen–Connell) effects. Dispersal of both species is currently largely dependent on a single frugivore, and many fruits today remain uneaten. Present-day levels of frugivore loss and mammal seed and seedling predators result in 57 to 84 per cent fewer seedlings after 2 years. Our study demonstrates the importance of seed dispersal for local plant population persistence, and validates concerns about the community consequences of frugivore declines.

This article was published online in Proceedings of the Royal Society B in March 2011 (doi:10.1098/rspb.2011.0185).

Large-seeded trees are highly dependent on kereru for regeneration (Photo: Nga Manu Images).

Minimising false-negatives when predicting the potential distribution of an invasive species: a bioclimatic model for the red-eared slider at global and regional scales

KIKILLUS K. H., HARE K. M. & HARTLEY S.

Invasive species threaten biodiversity; hence, predicting where they may establish is vital for conservation. Our aim is to provide a robust predictive model for an invasive species suitable for managers acting at both global and regional scales. Specifically, we investigate one of the world's worst invasive species [the red-eared slider turtle (RES) *Trachemys scripta elegans*] and one of the world's biodiversity hotspots (New Zealand) as our representative systems. We used climate data and location records to define a bioclimatic envelope for the species. Multimodel inference was used to predict areas suitable for RES establishment, weighting in favour of models with low false-negative and high true-positive rates in predictive cross-validation tests. Our performance criterion was the partial

area under the curve of a receiver operating characteristic plot where sensitivity exceeded 0.95. We generated both conservative (best-case scenario) and liberal (worst-case scenario) predictions, based on different levels of information about breeding potential. All predictions were expressed on a standard scale of suitability relative to existing known distribution. Globally, the best climate matches for RES outside of their native range in North America include south-eastAsia, and parts of Europe, areas where RES have already established. The best available site in New Zealand is considered climatically more suitable than 16% of global sites where RES have bred successfully. While RES can survive in several areas throughout New Zealand, the potential to establish a self-sustaining (i.e. breeding) population appears restricted to the upper areas of the North Island where the mean daily temperatures in the hottest month exceed 18°C. The methods developed here were designed to reduce false-negative predictions as that represents a precautionary approach for species that pose a biosecurity risk. They could readily be adapted, however, to reduce false-positives when predicting areas suitable for translocation of rare and endangered species.
This article was published in Animal Conservation 13 (Suppl.1): 5–15 (2010).

NEWS FROM COUNCIL

The Kauri Fund

The Kauri Fund Trust had its annual meeting in Auckland on 25 January 2011. Full minutes of the meeting will be posted on the Society website once they are approved by the Trust. The Kauri Seed programme that sponsored undergraduate student attendance at the NZES annual conference in Dunedin in 2010 was a success, and will be repeated at this year's conference in Rotorua. Other initiatives that could be supported by the fund and options for raising additional funds were also discussed.

NZES Council meetings

The Council had Skype meetings on 22 November 2010 and 1 April 2011. Full minutes of these meetings will be posted on the Society website once they are approved by Council. Key items discussed at the meetings are summarised below.

Council has decided to make a New Zealand Ecological Society submission on the National Policy Statement on Biodiversity. Society Membership continues to be healthy, with 13 new members and only four resignations. The new members are Jackie Spencer, Jason Butt, Mary Morgan-Richards, Kara Maresca, Mei Nee Lee, Ben Zimmerman, Nina Gaze, Fiona McMillan, Nina Giejsztowt, Madeleine Jardine, Zoe Leigh Stone, Miriam Ludbrook and Esther Dale. Council is proposing to amend the Society rules to strike off members with unpaid subs after one year, rather than the current two years. This will be raised with members at the AGM for approval. The *NZ Journal of Ecology* already has two issues for this year in press and available online (one is a special issue on 'Search and detection: theory and application in disease and wildlife management'), while a third issue is on the way. Council approved that minutes of Council meetings be posted on the Society website, rather than published in the newsletter as previously.

NOTICEBOARD

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

Environmental Law & Regulation Reform Conference
27–28 April 2011

Duxton Hotel, Wellington
www.conferenz.co.nz

The Australasian Society for the Study of Animal Behaviour (ASSAB) Annual Conference
11–13 April 2011

Flinders University, Adelaide, Australia
www.assab.org/meetings/information-assab-2011/

Ornithological Society of New Zealand
June 4–5 2011

Lower Hutt
http://osnz.org.nz/osnzagm.htm

15th Australasian Vertebrate Pest Conference
June 20–23 2011

Sydney, Australia
http://www.avpc.net.au/index.html

New Zealand Biosecurity Institute – NETS Conference 2011
6–8 July 2011

Bruce Mason Centre, Takapuna, Auckland.
The theme of the NETS 2011 conference is "Northern Gateway, Tomorrow's Pests Today!"
http://biosecurity.org.nz/nets/next-nets/

International Botanical Congress
23–30 July 2011

Melbourne, Australia
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

www.ibc2011.com

AWIS (Assocation for Women in the Sciences) 2011 Conference
28–29 July 2011

Skycity, Auckland
www.awis.org.nz/awis-2011-conference/

NZ Ecological Society Annual Conference
28 August–1 September

Rotorua

The 3rd Combined Australian and New Zealand Entomological Societies Conference
28 August–1 September 2011

Lincoln University, Christchurch, New Zealand
Conference theme: "The Status of Australasian Entomology: Where the bloody hell are we"?

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

Ávila, Spain
www.europeanecology.org

23rd Asian-Pacific Weed Science Society Conference (APWSS 2011)
25–30 September 2011

The Sebel, Cairns, Queensland, Australia
www.apwss2011.com/

Australasian Ornithological Conference
28 September–1 October 2011

Cairns, Australia
www.birdsaustralia.com.au/whats-on/australasian-ornithological-conference.html

Ecological Society of Australia 2011 Annual Conference
21–25 November 2011

Wrest Point, Hobart, Tasmania

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

Sky Tower, Auckland
www.conbio.org

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

University of Auckland, Auckland
Conference theme: Climate and Society
www.icb2011.com

5th National Wetland Restoration Symposium
21–23 March 2012

Ascot Park Hotel, Invercargill
This symposium is being organised by the Southland Wetlands Working Party in conjunction with the National Wetland Trust.
www.wetlandtrust.org.nz

7th World Congress of Herpetology
8–14 August 2012

Vancouver, Canada
www.worldcongressofherpetology.org

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(Effective from 23 November 2010)

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This Newsletter was produced by Debra Wotton and Jeremy Rolfe.

Contributions for the newsletter—news, views, letters, cartoons, etc.—are welcomed. Please e-mail to editor (newsletter@nzes.org.nz) with document attached (Word formatted for Windows) or post. If posting, please send articles for the newsletter on CD. Please do not use complex formatting; capital letters, italics, bold, and hard returns only, no spacing between paragraphs. Send CD to:

Debra Wotton
Landcare Research
P.O. Box 40, Lincoln 7640

Next deadline for the newsletter is Friday 20 May 2011.

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.

For more details on membership please write to:

NZ Ecological Society
PO Box 25 178
Christchurch
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