NEW ZEALAND ECOLOGICAL SOCIETY

Newsletter

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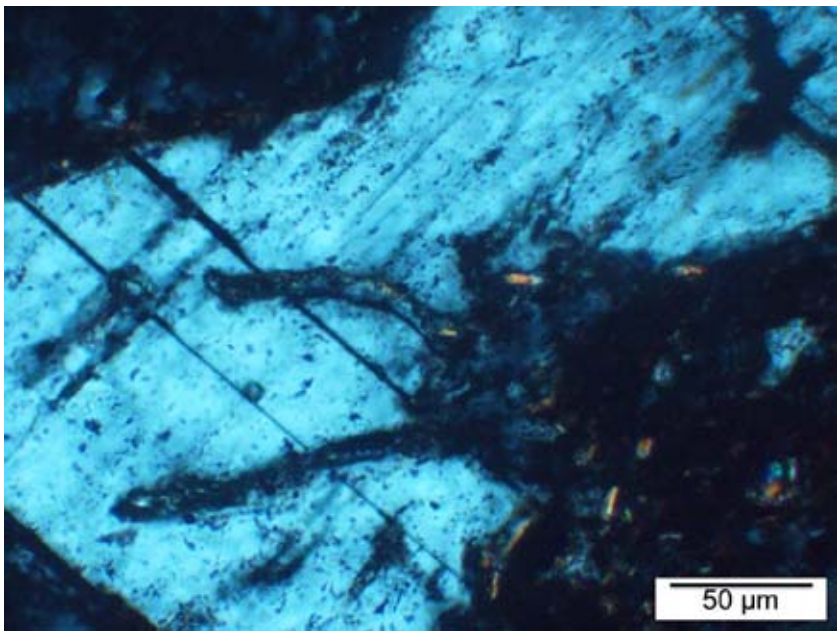
ILLUSTRATE ECOLOGY

Ectomycorrhizal tunnel under *Nothofagus* forest



A "tunnel" in a feldspar grain in soil under *Nothofagus* forest in the South Island, observed with a polarized light microscope. Similar features have been observed in European and North American studies and are thought to be a mechanism to ensure nutrient uptake. Ectomycorrhizal hyphae associated with, in this case, *Nothofagus* trees exude organic acids, dissolving minerals that bear important plant nutrients such as phosphorus and calcium. The dissolution occurs at the hyphal tip only and forms tunnels in the shape and size of fungal hyphae. In a current Marsden-funded project the ecological significance of this mechanism is studied for New Zealand and global forest ecosystems.

Photo: Nina Koele, Landcare Research.

INSIDE:

Newsletter Editor: Debra Wotton, Landcare Research, Lincoln. E-mail: newsletter@nzes.org.nz

*The deadline for submissions for the next issue of this newsletter is **Friday 14 September 2012**.*

REMINDER FOR NOMINATIONS: NZES AWARDS 2012

TE TOHU TAIO – 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 George Perry, george.perry@auckland.ac.nz by **30 June 2012**. Nomination should also include a statement of support.

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 George Perry, george.perry@auckland.ac.nz **by 30 June 2012**.

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 George Perry, george.perry@auckland.ac.nz **by 30 June 2012**. 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 2009), 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 email a a short statement identifying the role each of the authors had in the publication **by 30 June 2012** to George Perry, george.perry@auckland.ac.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.

ARTICLES

INTRODUCING NATUREWATCH NZ

Built by The New Zealand Bio-Recording Network Trust (NZBRN), powered by iNaturalist, supported by TFBIS

Colin Meurk, Jon Sullivan, Steve Pawson, Jerry Cooper, Shane Orchard, Zane Gilmore (NZ Bio-Recording Trust)

The NZBRN (www.nzbrn.org.nz) online system for recording natural history observations in New Zealand has been open for business since 2005 with nearly half a million observations now stored and many more to be added soon. It is totally owned and operated in New Zealand and provided the means for reporting and viewing observations of primarily land-based organisms. In carrying out a thorough search for a much needed upgrade, we are pleased to announce that the next generation of NZBRN will be on a robust, future-proofed, open-source platform powered by iNaturalist (a Ruby on Rails web app). By partnering with iNaturalist, we can continue to develop alongside their international experience and other sister projects (e.g., Costa Rica's biodiversity institute, INBio).

NatureWatch.org.nz, the new iNaturalist-based website of NZBRN (soon to be launched) is in test mode at …

http://inat.nzbrn.org.nz/ (user: nzbrn, pass: nearbytaxa)…Try it and if any difficulties or feedback, email: meurkc@landcareresearch.co.nz and jon.sullivan@lincoln.ac.nz

… and is a massive jump in immediate or potential features, ease-of-use over our legacy system, and robustness of its modern database infrastructure.

The core purpose and functionality of NatureWatch NZ is to grow and service an **online community of naturalists** and their observations. We want to **increase society's connections to nature** and use community observations to better document and understand nature and how it is changing.

NatureWatch NZ provides the means to make, store, and view observations of species (Fig. 1), both through **Project webpages** on our system and through data (maps, observations, photos) fed dynamically from our system to external websites. Users can create and join projects, which can be places and/or taxa of special interest (defined by a polygon) (Fig. 2a,b). Project webpages include a description of the project with links to more information (such as your own website); you can grab a **Project widget** and it will dynamically display the latest observations on your website. You can create a **check list** of all the species recorded by approved recorders for the project accompanied by pictures.

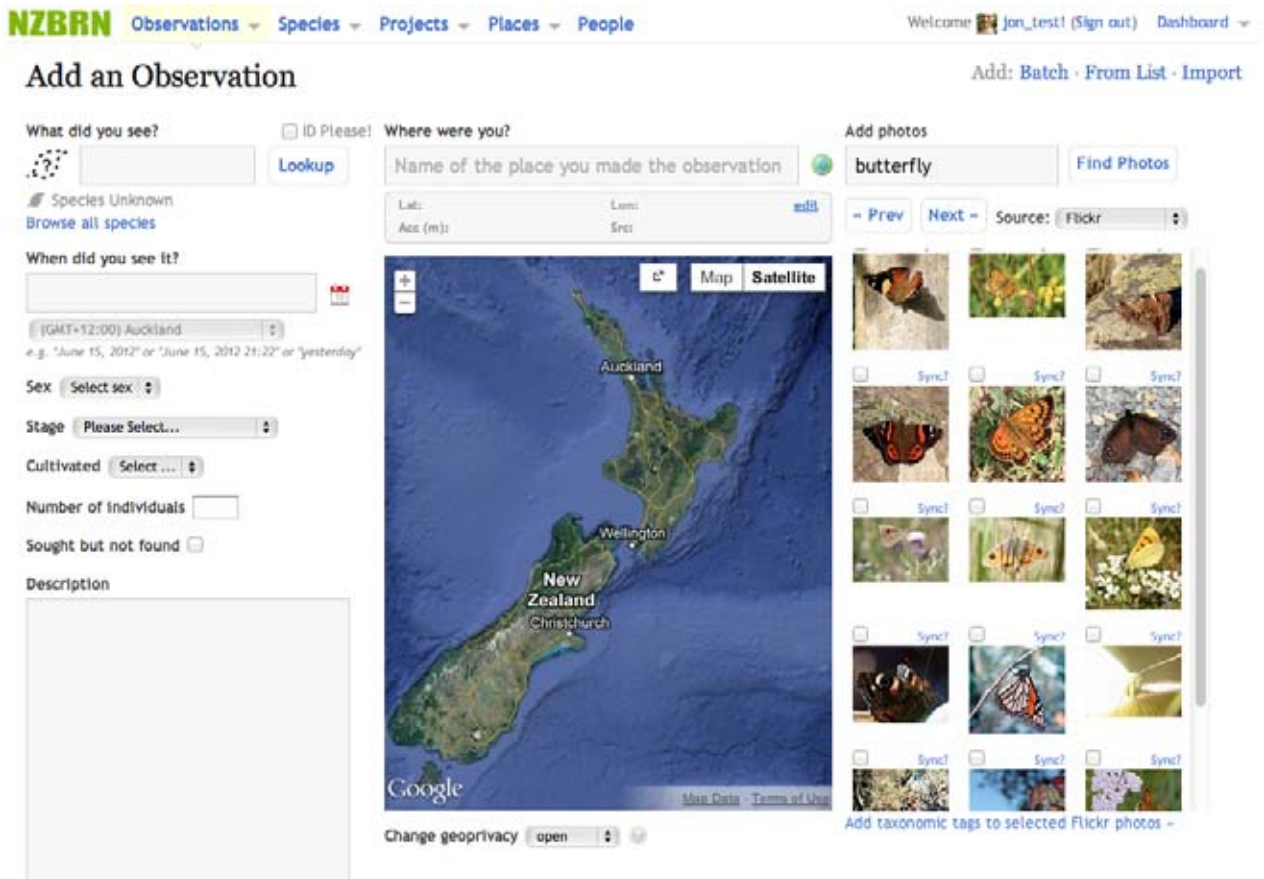


Figure 1. 'Add Observation' page of the test **NatureWatch NZ** website with some of the new features we have added to the *iNaturalist* platform (Sex! Sought but not found!)

New users can sign in with their Facebook, Google, or Yahoo IDs (if they wish) or create a user ID and password in our system. All species of **any organism type may be recorded**, in the one portal and names will be linked to **NZ Organisms Register** (NZOR). As before records can be scored as 'planted or not'; 'searched for but not found'; and with geo-privacy status.

You can **upload photo(s)** associated with any observation (of a species or site view) directly or from your Flickr or Picasa gallery. You can **request an identification** ("ID Please") when you add an observation or **comment on other people's records** (based on the photos) and agree with or submit an alternative identification giving **quality assurance**. All data can be **downloaded** in CSV, KML or RSS. **Bulk upload** capability is to be expanded. iNaturalist has **iPhone and Android apps** that we are currently optimizing for NZ.

Explore allows you to look at existing records and view **species distribution maps**. We share data with **GBIF** (Global Biodiversity Information Facility).

Learn allows you to look up **information about any organism or place** (Wikipedia, Flickr, GBIF, etc.). Users can annotate species traits (currently just colour(s)) as a simple ID key.

This project will continue to grow to meet your needs. We are building a **professional page** of additional fields that is tabbed from the home page (Fig. 1) including: Density and cover; Height, spread, dbh; Phenology, etc.

Follow us on facebook (www.facebook.com/nzbrn/); watch and contribute to our development.

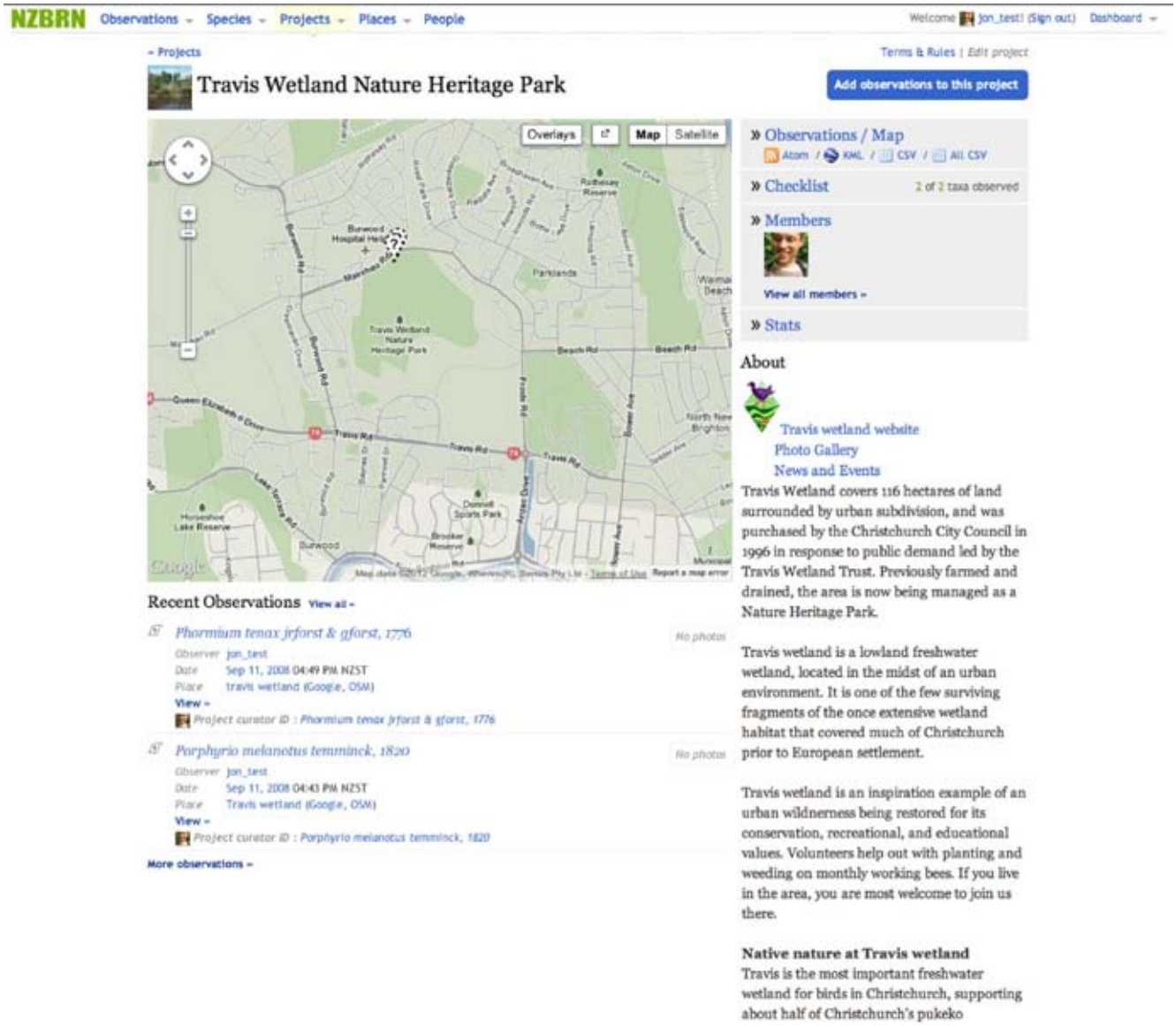


Figure 2a. Travis Wetland project – showing links to the Travis Wetland Trust's website, etc.

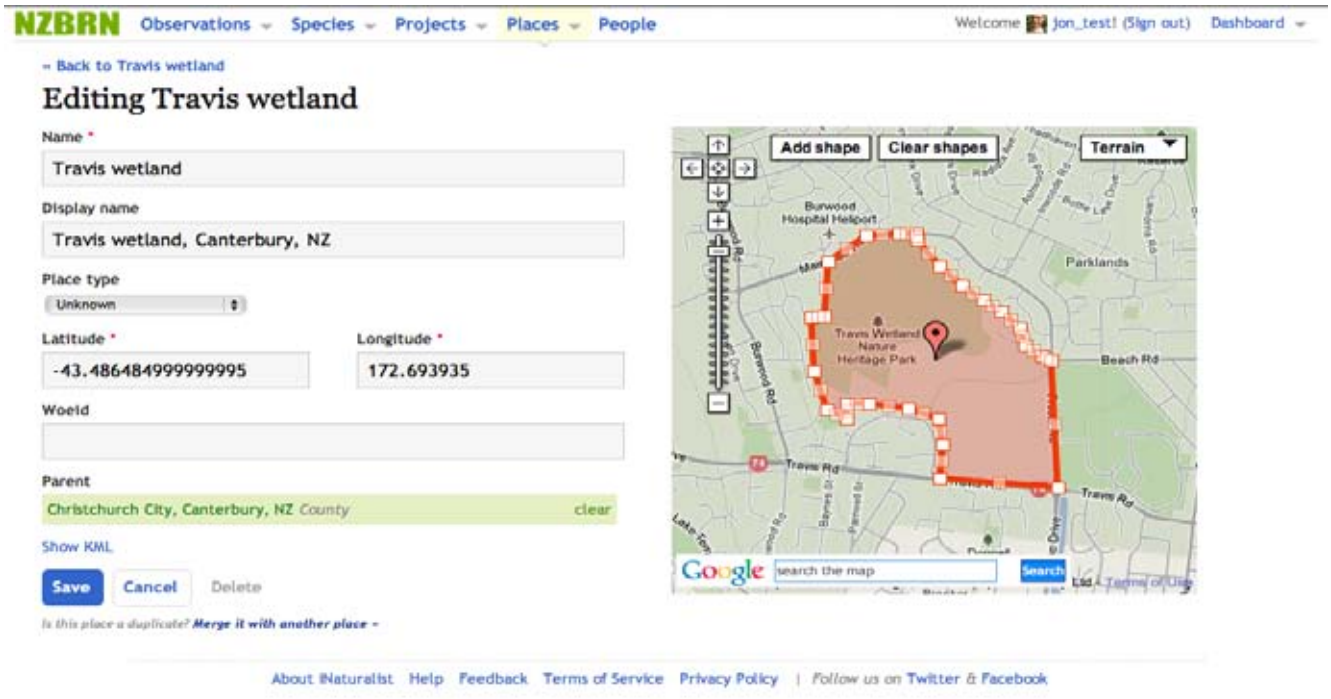


Figure 2b. Polygon drawn around restoration project area (Travis Wetland).

NATIONAL FLORA MAPPING SYSTEM

John Sawyer, Auckland Council

New Zealand Plant Conservation Network has now launched a national flora mapping system with close to 1 million records and a further 1 million coming from other sources in the near future. See: www.nzpcn.org.nz/news_detail.asp?ID=389

Also, website users can now upload any observation of a plant to the Network website, not just phenology observations — see: www.nzpcn.org.nz/news_detail.asp?ID=393

We hope this will mean people logging their observations of plants to improve the distribution database. This is quite exciting in terms of helping people with restoration (finding local seed sources, "what was here previously" etc.) and field survey ("what has been recorded there before?") and for gardeners wanting to know what grows locally.

Carmichaelia kirkii, *Macraes Flat, Otago. Photo: Debra Wotton. Most* C. kirkii *populations occur on private land. The species is highly palatable and so vulnerable throughout its range to all browsing animals. Recent surveys have discovered more populations, resulting in this species being one of the few with a lower threat ranking in 2009 than in 2004. However, at many sites there is no recruitment. Several former populations appear to have gone extinct through excessive collection of specimens by botanists (Source: NZPCN website).*

CONFERENCE REPORT

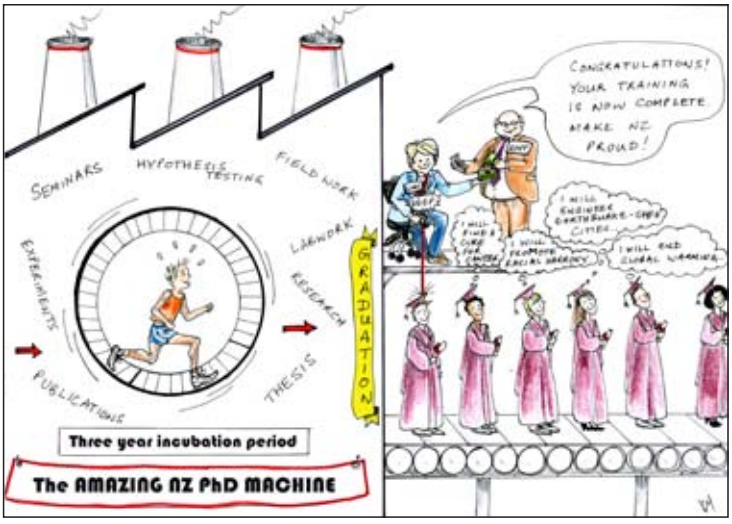
DO EMERGING SCIENTISTS HAVE A FUTURE IN NEW ZEALAND?

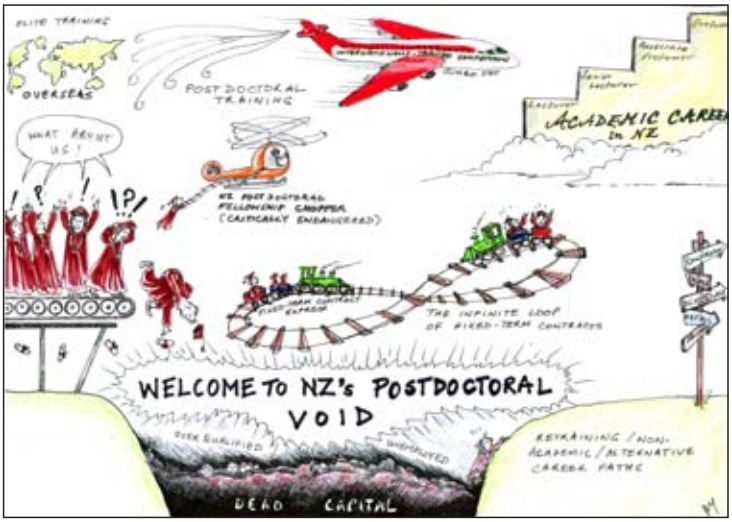
Debra Wotton, FRST Postdoctoral Fellow, Landcare Research, Lincoln

In April this year, the NZ Association of Scientists (NZAS) held its annual conference in Wellington to discuss whether there is a future for emerging scientists in New Zealand. The conference was organised in response to widespread concern about critical funding gaps in the NZ science system for early career scientists. In September last year, 560 NZ scientists signed an open letter expressing their concerns about the current lack of postdoctoral opportunities for early to mid-career researchers in NZ. The government axed the FRST Postdoctoral Fellowships in 2010, which provided critical bridging funding between PhD and established, permanently employed researcher. This lack of opportunities for recent PhD graduates, whose training has been supported by the NZ Government, means that many are forced to leave the country.

Despite government rhetoric about the importance of science, figures obtained by the NZAS show a 25% decline in postdoctoral fellowships in New Zealand since the current government took office in 2008 (Hendy 2012). David Shearer (Labour Leader and Science Spokesperson) acknowledged the importance of fellowships to career pathways for emerging scientists. "In 2010 the government made the decision to cut the FRST postdoctoral fellowships. It has gutted our ability to move on from the doctorate into advanced research. If you want to farewell our best and brightest at the airport, it's probably the best way to do that." However, he didn't reveal what Labour would do differently to the current government. Presumably we have to wait for the next election campaign to find out.

The recently established Rutherford Discovery Fellowships, which replace the FRST Fellowships, are targeted at well-established researchers, most of whom already have permanent positions. Mark Stagg (RSNZ) reported that in the first two years far more Rutherford Discovery Fellowships were awarded to males (80% of awardees in both 2010 and 2011) than females (20% in both years). Interestingly, 38% of applicants were female in both years. This means that not only are fewer females applying for the fellowships, but their applications are less successful than males. Is this simply a random effect of small sample size, or does the scheme disadvantage female researchers?





Cartoon courtesy of Dr. Melanie Massaro (conference speaker) and Dr. Krithika Yogeeswaran (cartoon artist), School of Biological Sciences, University of Canterbury.

Melanie Massaro, author of the open letter, criticised the funding systems that reward universities for training PhDs but discourage the employment of Postdocs (see cartoon). After outlining the struggle to cross the postdoctoral void to full employment, Dr. Massaro compared postdoctoral fellowships to helicopters that carry PhD researchers over the void, to a position where they are able to compete with the overseas trained scientists arriving on the international jumbo jet. "We need more helicopters and we need them urgently".

A number of conference speakers called for PhD graduates to consider applied science in commercial areas, rather than careers in academia. This might be great for disciplines where this is appropriate such as nanotechnology and engineering, where research can be commercially valuable. However, it also emphasises the need for government to provide sufficient funding for public good science that has no commercial application, including research in ecology, conservation, climate change, and the health sciences.

Another interesting and contentious point raised at the conference was the supposed sense of entitlement by PhD graduates to an academic career. As Dr Massaro pointed out in her presentation, every university academic supervises many PhD students during their career, but only one can replace them when they retire. There are many alternative career paths outside of university academia. However, there are not enough jobs that utilise the skills gained during a PhD in any area, be it academia, CRIs, local and central government, or industry, for the number of PhD graduates we are producing (see Fig. 1).

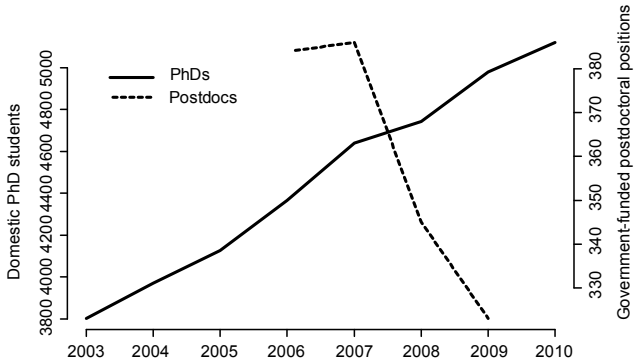


Figure 1. NZ universities are churning out an ever-increasing number of PhD students, while government-funded postdoctoral positions have dwindled. This decline occurred even before the government axed the FRST Postdoctoral Fellowships in 2010. The number of government-funded postdoctoral positions will continue to fall as current FRST fellows finish (Sources: Ministry of Education and Ministry of Science and Innovation).

Given tight budget constraints, perhaps funding needs to be shifted between areas within the science system. For example, one of the questions raised at the conference was: does NZ produce too many PhD students? The current funding system unfairly favours PhD students over post-doctoral researchers. PhD students don't attract overheads, which effectively double the cost of hiring a postdoctoral fellow. It is cheaper to have two or three PhD students on a funding proposal than one postdoctoral fellow. This is reflected in the increasing number of PhD graduates and dwindling number of postdoctoral positions. The number of domestic PhD students rose from 4,365 in 2006 to 4,979 in 2009, while government-funded postdoctoral fellows fell from 384 to 323 (Fig. 1; Sources: Ministry of Education and Ministry of Science and Innovation). David Carter, speaking on behalf of Steven Joyce (Minister for Science and Innovation), said "We need to make sure the funding system does not inadvertently discourage the inclusion of postdoctoral fellows." I hope the government will make real changes to address this issue.

Many speakers emphasised the need for scientists to up-skill in non-science areas such as science communication. When NZ graduates are competing with those from overseas it may make sense for NZ universities to enhance what's offered during PhD courses. I was impressed by the University of Auckland's initiatives to support early career scientists and NZAS agreed to establish a national group to lobby for emerging scientists.

So has the conference made any difference? Nine months after the open letter and more than two months after the conference, little seems to have changed. Recent modifications to the Rutherford Discovery Fellowships have been described largely as tinkering around the edges and government-funded postdoctoral fellowships have yet to be reinstated. Probably the most important achievement of the conference was that it got scientists talking about the issues and raised their profile with politicians and the public. The conference received lots of media attention, including items on Radio NZ National and Campbell Live, and The Dominion Post also ran a recent article on this topic.

For me the conference was a great opportunity to meet and talk to scientists across a wide range of disciplines and organisations. Take-home messages were that NZ has a lack of government-funded postdoctoral fellowships, a surplus of PhD graduates, overheads on postdoctoral salaries that are too high, and a funding system skewed towards favouring PhDs over Postdocs. Now that the problems have been identified, it's time to get on and fix them!

Sources

Griffin P. 2012. Do emerging researchers have a future in NZ? http://sciblogs.co.nz/griffins-gadgets/2012/04/17/do-emerging-researchers-have-a-future-in-nz/.

Hendy S. 2012. Budget 2012: young scientists will be booking their tickets. www.scientists.org.nz/posts/2012/05/budget-2012-young-scientists-will-be-booking-their-tickets.

Macdonald 2012. The science experiment. Dominion Post, 26 May 2012, p 12–15.

BOOK REVIEW

OLD GROWTH URBAN FORESTS

Reviewed by Colin Meurk, Landcare Research, Lincoln

Robert E. Loeb
Publisher: Springer New York
ISBN: 978-1-4614-0582-5
Published: 2011
Format: paperback, 78 p.

This slim volume had me thinking American version of Oliver Rackham's A History of the (English) Countryside. That meticulously researched account of the interweaving of nature and culture in Britain over the millennia may explain the deeply embedded passion early European settlers to NZ had for transforming the indigenous, dark bush and 'unproductive' range land into familiar fields with English trees and hedgerows.

I digress, because I expected to read of ancient woods and hedges, carved from unbroken history back to contiguous primordial forests. Whether it's urban or rural seems less important, as they are just segments of a continuum of vegetation that occupies the cultural (lived-in) landscape.

But Loeb's definition of 'old growth' was unexpected. He debunks "the hallowed concept of old growth forest as "undisturbed by humans"". So far, so good! But I was perplexed by his claim that traditional ecological education "rejects classification of any urban forest as old growth because the forest did not achieve the successional climax state as a result of human disturbances".

By Wikipedia standards (http://en.wikipedia.org/wiki/Old-growth_forest), an old-growth forest (also primary forest, virgin forest, primeval forest, late seral forest, ancient woodland) is one that has attained great age without significant disturbance …" and has diverse structure, age, composition, wildlife and litter (White & Thomas 1994). Loeb also notes that his 'old growth urban forest typology contains …: street, landscaped and remnant', at total odds with Wikipedia; even his 'remnant forest' oddly includes 'cessation of agriculture'. 'Primary' to me, implies at least a particle of historical 'memory' in degraded landscapes—with soil structure, fauna and microbiota substantially intact. This would seem to preclude cultivation. In urban forest terms we are surely talking about remnants, albeit modified, like Riccarton Bush.

The origins of even planted forests become blurred, as in North America where arboriculture has been practiced for at least 500 years. In urban NZ, 'neglected', century old, exotic deciduous parklands or plantations, often with indigenous groves, are now transitioning towards 'natural' recombinant vegetation (Meurk 2011) – assisted by community volunteers. But are these 'old growth' as Loeb classifies them, citing Stewart et al. (2009)?

Having dealt with "what and where" and curious definitions, the booklet has two further sections: Historical Continuity (composition, dynamics—street, landscaped and remnant forest); and Partnerships, Adaptive Management and Restoration—to achieve that continuity. There are further quibbles—the preoccupation with "forest resetting" (time when current 'old growth' was initiated) as the signal for an old growth forest to begin (when 'witness trees'—old, original remnant trees that mark some historic natural or cultural event) might be a better basis for designating old growth in the context of a forest, but not a line of street trees); dubious inferences from alien/native ratios (p26); and being careful when applying northern continental precepts to NZ, such as thinning canopies to let in more light (p 34).

But the booklet is a fascinating tale of human-forest interactions over post-colonial NE America and the life's work of a careful observer. The lurching of forest composition over just a few centuries due to fire, pests, diseases, cutting, browsing and weeds is sobering to any belief in stability. And it ends with a nice section on community engagement and restoration which is familiar to us here. This aligns with Sukopp & Werner's (1982) "principle of historical continuity". Restoration of "historical continuity", informed by historical ecology, is Loeb's laudable aim—but maybe too prescriptive; is it worth trying to replicate demography or should we let nature figure it out once we've provided the ingredients? He understands the importance of urban environments to well-being. And his Figure 3.3 2 nicely depicts scenarios of degradation and restoration and the "shifting baseline syndrome"—it could be NZ. I feel tired contemplating the best example of an ancient (*Muehlenbeckia*) hedge on my way to work, obeying Hooper's Rule of one species per century, now being removed. So we reset again—and will we ever have hedges with history? Perhaps when herbicide and fossil fuels are too expensive it will be like Mediaeval England when it wasn't worth the bother to sanitise the countryside—and there were ecosystem services to be gained, and folklore to imbibe.

References

Meurk, CD. 2011. Recombinant Ecology of Urban areas – characterisation, context and creativity. Pp 198-220 in Douglas, I., Goode, D., Houck, M.C., Wang, R. (editors), The Routledge Handbook of Urban Ecology. Routledge, London.

Meurk, CD, Swaffield, SR 2000. A landscape ecological framework for indigenous regeneration in rural New Zealand-Aotearoa. Landscape & Urban Planning 50: 129-144.

Stewart, GH, Ignatieva, ME, et al. 2004. The re-emergence of indigenous forest in an urban environment, Christchurch, New Zealand. Urban Forestry & Urban Greening 2: 149-158.

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White & Thomas 1994. 8th Biennial Southern Silvicultural Research Conference, Auburn Alabama

NEWS FROM COUNCIL

NEW CHIEF EDITOR FOR NEW ZEALAND JOURNAL OF ECOLOGY

Jo Hoare, Science & Technical Unit, Department of Conservation, Christchurch

After three years in the job, K.C. Burns has stepped down as Chief Editor of the New Zealand Journal of Ecology and I've inherited the job. K.C. did a great job as editor, and put the journal in a good position for succeeding in the competitive world of science publishing. His main achievement was to drag publishing times back to earlier in the calendar year, which has a direct influence on number of times an article is cited during the year and therefore on the journal's impact factor. K.C. remains active on the journal's editorial board.

By way of introduction, I am a conservation ecologist currently working for the Department of Conservation's Science and Technical Unit and am based in Christchurch. I'm a herpetologist and behavioural ecologist by training and completed my PhD at Victoria University of Wellington in 2006. Since joining DOC I've branched out into working with bats, birds and insects, and lead research programmes focussed on both developing monitoring techniques for cryptic taxa and using genetics to inform long-term recovery planning for species. I am an active member of the Society for Research on Amphibians and Reptiles in New Zealand (and currently hold the Vice President role in the society) and the Society for Conservation Biology (as an elected board member of the Oceania Section). I took on the journal's Chief Editor role at the end of February. I'm really enjoying the role, its challenges and surprises, and working with an excellent editorial board and technical editing team.

Recent changes on the editorial board include Wayne Linklater stepping down from the board and Colin O'Donnell (Department of Conservation) joining the board. A change to the way that manuscripts are handled has also meant that the journal no longer has a Managing Editor.

I wish to acknowledge the substantial contributions to the journal and society made by K.C. as Chief Editor, Iggy Menzies as Managing Editor and Wayne Linklater as Associate Editor and look forward to more thought-provoking manuscripts rolling in.

ACROSS THE TASMAN

Australian ecologists are making use of the latest technology to help monitor ecosystem trends across the Australian continent. In the latest issue of the Bulletin (www.ecolsoc.org.au/documents/ESABulletin_June_2012.pdf), Ben Sparrow reports on a new initiative using a smart phone app and tablets to collect monitoring data more efficiently. The data is entered directly into tablets while in the field and uploaded to a publicly available data portal automatically as soon as a network connection is available. Tablets might not be so useful for fieldwork in NZ, unless there are waterproof tablets available…?

ECOTONES

Bruce Burns, Auckland University

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

Have we solved Dansereau's problems?

Professor Pierre Dansereau of Canada, often termed one of the 'fathers of ecology' died last year (2011), one week short of his hundredth birthday! During his remarkable and lengthy career (www.sciencetech.technomuses.ca/english/about/hallfame/u_i27new_e.cfm), he visited New Zealand and came up with a list of 6 'problems' which he thought set New Zealand vegetation apart from the rest of the world (Dansereau 1964). In a timely review, Wilson and Lee (2012) have recently reconsidered these 'problems' to see whether we have made any progress in understanding Dansereau's perceptions. They conclude that several of Dansereau's 'problems' do not seem so unusual any more with increased knowledge of New Zealand's vegetation ecology over the last 40 years. Analysis suggests that New Zealand's vegetation

is more in tune with current climate and environment than Dansereau perceived, and has the vegetation types that one would expect given its climate. Succession in New Zealand is also better understood and more normal than Dansereau thought. The absence of deciduous trees in most forests, noted by him, is probably predictable under New Zealand's climate, though the absence of deciduous trees at treeline is still a mystery. Also, still unresolved (though we have made progress) are the causes of beech gaps, whether New Zealand has a higher rate of hybridization, and why there is a high incidence of divaricating forms here. Dansereau suggested that many of the 'problems' he encountered in New Zealand were due to a 'depauperate' flora. This recent review dispels this myth, and indicates that New Zealand's flora is comparable to other areas of the world of similar size and isolation.

Dansereau PM 1964: Six problems in New Zealand vegetation. Bulletin of the Torrey Botanical Club 91: 114–140.

Wilson JB, Lee WG 2012: Is New Zealand vegetation really 'problematic'? Dansereau's puzzles revisited. Biological Reviews 87: 367–389 doi: 10.1111/j.1469-185X.2011.00202.x

A thousand years of climate data agree that the Australasian Region is warming and it isn't natural

A large group of scientists from Australia, New Zealand and other parts of the world have recently published a landmark analysis of climate variation over the last millennium (Gergis et al 2012). They used 27 proxy records of temperature from around the Australasian region to develop a reliable reconstruction of variation over the period AD 1000-2001. The proxy records included tree rings (including several kauri and podocarp chronologies from throughout New Zealand), coral bands and ice cores, and this analysis represents the first large-scale climate reconstruction for the region. The most critical result of this work is that it found no other warm periods in the past 1,000 years that match or exceed post-1950 warming observed in Australasia. As well, this unusual 20th century warming cannot be explained by natural variability alone, suggesting a strong influence of human activity.

http://newsroom.melbourne.edu/studio/ep-149

Gergis J, Neukom R, Phipps SJ, Gallant AJE, Karoly DJ and PAGES Aus2K project members 2012: Evidence of unusual late 20th century warming from an Australasian temperature reconstruction spanning the last millennium. Journal of Climate. doi:10.1175/JCLI-D-11-
00649.1, in press.

How did early Māori burn New Zealand's landscape?

In the first 100 years following Māori settlement of New Zealand, there is evidence from lake sediment cores (et al.) for a period of intense landscape burning which resulted in 40-50% of forest cover being lost. At that time the Maori population would still have been quite small, so how did such a small population cause such widespread forest destruction? Perry et al. (2012) have used a simulation modelling approach to try and answer this question. They first set up a model to mirror prehuman forest conditions and demonstrated that this forest was unlikely to burn much under natural ignition scenarios but needed human-initiated events. They then looked at a range of scenarios varying the location and timing of ignitions. They concluded from their models that Māori were able to instigate such large-scale landscape modification by targeting ignition to flammable vegetation (e.g., early successional stands of Leptospermum scoparium and/or Kunzea ericoides) and, less importantly, after dry conditions. Then further fires repeated on a decadal time scale were all that was necessary to keep the landscape clear. These early human-caused fires must have been incredible events that aren't recorded in current human histories, but their legacy is still evident in the broad patterns of the New Zealand landscape.

Perry GW, Wilmshurst JM, McGLone MS, McWethy DB, Whitlock C 2012: Explaining fire-driven landscape transformation during the Initial Burning Period of New Zealand's prehistory. Global Change Biology 18: 1609–1621.

Marine Mammal Protected Area improves survival probabilities for Hector's dolphins

The 1170 km^2 Banks Peninsula Marine Mammal Sanctuary was established in 1988 to protect Hector's dolphin because of unacceptable levels of mortality from gillnets there. However, since its establishment, there has been no observed increase in population size in the Sanctuary. So, is the Sanctuary working? Gormley et al. (2012) have now analysed over 21 years of photo-identification data from 1986–2006 in which they followed the fates of 462 individuals. Their results indicate over a 90% probability that survival has improved with the Sanctuary in place and estimate an increase of 5.4% in mean survival probability. This is the first study to show an improvement in a demographic parameter of a marine mammal through a conservation action, and provides strong evidence for the value and effectiveness of the Sanctuary.

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Parasites are part of biodiversity too!

A recent paper by Moir et al (2012) has highlighted a little recognised risk of biodiversity loss that may occur through conservation action that moves populations of threatened species to new locations, e.g., translocation or reintroduction. They point out that threatened species, as with other species, can be hosts to a range of other

organisms, some of which can be host-specific. These can be endo- or ectoparasites, pathogens, or herbivores of the host species. Conservation strategies for a particular species may actually be targeting an assemblage of species. The research group provides a number of case studies including three New Zealand examples: translocations of Duvaucel's gecko and tuatara and their dependent ectoparasites, and translocation of hihi and a species-specific coccidian. Although the translocations of the host and dependent species were successful, populations of the dependent species were sometimes reducing over time under initially low host population densities, and might require later intervention to ensure their survival. The paper provides guidelines to try and avoid extinction of dependent species and to determine whether conservation actions like translocation might increase the probability of persistence of dependent species. Including dependent species conservation in translocation plans may result in adjustments to those plans to ensure appropriate founder population sizes of the dependent species are also moved.

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THE NOTICEBOARD

VII SOUTHERN CONNECTION CONGRESS 2013

20–25 January 2013 Dunedin New Zealand

This is a special conference for those interested in biogeography, ecology, conservation, ecophysiology, invasions, ethnography, phylogenetics, phylogeography and Earth and ocean processes. For nearly 20 years **Southern Connection** has linked scientists interested in the natural sciences across the Southern Hemisphere. The aim is to learn from shared and divergent biotas and cultures, and their histories in different lands and oceans, in order to contribute solutions to sustaining species and ecosystem services.

The VII Southern Connection Congress in Dunedin is on the theme: Southern lands and oceans: Life on the edge?

Endorsement — I have attended three Southern Connection conferences and they have been really worthwhile. I think this is because they have a strong natural history focus and provide valuable insights on many topics. They also deal with biota and ecosystems in other countries that have a familiarity based on common lineages. Already we have over 20 symposia at the Dunedin Congress.

Please visit the website for further information.

www.otago.ac.nz/V11-southern-connection/information.html

Bill Lee, Landcare Research, Dunedin

STUDENT CONFERENCE ON CONSERVATION SCIENCE – AUSTRALIA

Supported by the Thomas Foundation

21–31 January, 2013

The University of Queensland, Brisbane, Australia

SCCS-Australia will bring together 100 post-graduate students from the Asia-Pacific region to develop their skills and forge lasting professional relationships in this, the most biologically and culturally diverse region in the world.

Combining a 3-day conference, 3 days of field trips and sightseeing around Brisbane, and 4 days of training and workshops, SCCS-Australia will provide students a unique and unforgettable experience that will help launch their future careers in conservation science. 30 scholarships to cover the full cost of the attendance will be available and offered on the basis of merit and equity.

Details and application form: www.sccs-aus.org
Call for abstracts opens: **29 June 2012**
Applications close: **14 September 2012**
Registration fee: AUD$120
Twitter: @sccs_aus
Facebook: https://www.facebook.com/SCCSAus

CALL FOR PAPERS: INTERNATIONAL DIDYMO CONFERENCE

An international conference on the invasive alga didymo (*Didymosphenia geminata*) will be held in Providence, Rhode Island, USA, **12–13 March, 2013**

Register at: http://didymoconference.eventbrite.com/

The conference will run over two dayswith keynote speakers, contributed papers and posters.

Abstract submission: Natural resource professionals, non-profit leaders and others knowledgeable on *D. geminata* are invited to submit abstracts for papers. Abstracts for all papers and posters must be received by **1 November 2012**. Abstracts are currently being accepted on all topics of *D. geminata* with particular interest in:

- stalk composition and function
- genetic sequencing and molecular characterization
- physical and chemical parameters of blooms
- community dynamics and ecosystem impacts
- management approaches
- control techniques

All presenters will receive an email confirmation of the abstract submission and will be notified of acceptance and time of presentation by **15 December 2012**.

More information regarding abstract submissions and registration can be found at: www.stopans.org/Didymo_Conference_2013.htm

DONATE NOW! KAURI FUND FOR ECOLOGICAL SCIENCE

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

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

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

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

UPCOMING MEETINGS

MMM3: Meeting on Mangrove ecology, functioning and management
2–6 July 2012
Galle, Sri Lanka
www.vub.ac.be/APNA/greendyke/MMM3/

IV International Wildlife Management Congress
9–12 July 2012
Durban, South Africa
www.iwmc2012.org

International Association of Vegetation Science 55th Annual Symposium
Climate Change and Vegetation Science
23–28 July 2012
Mokpo, Korea
Papers on all aspects of vegetation science welcome. Sessions will address new theory, methodology and application of vegetation ecology at a range of spatial and temporal scales. A particular focus will be vegetation diversity and dynamics in natural and cultural landscapes of coastal-island regions in the context of global climate change.
Abstract deadline: **31 March 2012**

5th Annual Ecosystem Services Partnership Conference
Ecosystem Services Come of Age: Linking Science, Policy, and Participation for Sustainable Human Well-Being
31 July–4 August 2012
Portland, Oregon, USA

Ecological Society of America 97th Annual Meeting
Life on Earth: preserving, utilizing and sustaining our ecosystems
5–10 August 2012
Portland, Oregon

Environmental Defence Society National Conference 2012
Growing Green: Transformation of farming, forestry and fishing
6–7 August 2012
Aotea Centre, Auckland
www.edsconference.com/index.cfm

7th World Congress of Herpetology
8–14 August 2012
Vancouver, Canada
www.worldcongressofherpetology.org

5th International Urban Design Conference
10–12 September 2012
Hilton on the Park, Melbourne, Australia

Society for Conservation Biology, Oceania Section
21–23 September 2012
Charles Darwin University, Darwin, Australia
Early registration deadline: 1 July 2012
www.conbio.org/Sections/Australasia

Aboveground-belowground interactions: technologies and new approaches
Joint meeting of the British Ecological Society, the Biochemical Society and the Society for Experimental Biology
8–10 October 2012
London, UK
Abstract deadline: **13 August 2012**
Early registration deadline: **10 September 2012**

18th Australasian Weeds Conference
8–11 October 2012
Melbourne, Australia
www.18awc.com/

Australian Wind and Wildlife Conference
9 October 2012
Melbourne, Australia
http://windandwildlife.com.au/2012.

NZ Ecological Society Conference
25–29 November 2012
Lincoln University, Lincoln

Inaugural Conference of the Society for Ecological Restoration Australasia (SERA)
28–30 November 2012
Perth, Australia
www.seraustralasia.com/pages/conference.html

Ecological Society of Australia Conference
Ecology: Fundamental Science of the Biosphere
3–7 Dec 2012
Melbourne, Victoria
http://esa2012.org.au

Joint Australian and New Zealand Soil Science Conference 2012
Soil Solutions for Diverse Landscapes
2–7 December 2012
Hobart, Australia
www.soilscience2012.com/.

VII Southern Connection Congress
Theme: Southern lands and oceans: Life on the edge?
21–25 January 2013
University of Otago, Dunedin
Abstract submission deadline: **31 July 2012**

Student Conference on Conservation Science – Australia
21–31 January, 2013
The University of Queensland, Brisbane, Australia
Call for abstracts opens: **29 June 2012**
Scholarship applications close: **14 September 2012**
www.sccs-aus.org

International Didymo Conference
12–13 March 2013
Providence, Rhode Island, USA
www.stopans.org/Didymo_Conference_2013.htm

INTECOL 11 Congress
Theme: Ecology—Into the Next 100 Years
18–23 August 2013
London, UK
Deadline for workshop applications: **26 July 2012**
www.intecol2013.org/

22nd International Grassland Congress
Revitalising grasslands to sustain our communities
15–19 September 2013
Sydney, Australia
Oral paper abstract submission deadline: **30 June 2012**
Poster abstract submission deadline: **30 November 2012**
www.igc2013.com

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(Effective from 30 August 2011)

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SUBMISSIONS TO THE NEW ZEALAND ECOLOGICAL SOCIETY NEWSLETTER

Contributions from NZES members are sought in the form of:

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

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

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

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

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

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

Content for the September 2012 issue of the NZES Newsletter is due by Friday 14 September 2012.

MEMBERSHIP

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

Types of Membership and Subscription Rates (2011)

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

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

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

School.....$12 per annum

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

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

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

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

For more details on membership please write to:

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PO Box 5075
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Christchurch 8542
NEW ZEALAND

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

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