NEW ZEALAND ECOLOGICAL SOCIETY

Newsletter

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FROM THE EDITOR

The recent NZ Ecological Society conference at Lincoln University reminded me what great shape the society is in. We have a healthy number of members working across the spectrum of ecological activities and hold superb annual conferences organised by dedicated local teams. More than 250 delegates attended the Lincoln conference and gave a wide variety of interesting presentations. The newsletter is also a great opportunity to hear about members ecological activities. I'm impressed by the artistic talent amongst members being revealed in Illustrate Ecology, with a fine example by Andrew Veale in this issue.

Congratulations to this year's recipients of the NZES awards: Ian Jamieson (Te Tohu Taiao), John Ogden (Ecology in Action) and Merodie Beavon (Best Publication by a New Researcher). It's important to recognise the achievements of New Zealand's eminent ecologists so start thinking about your nominations for next year's awards over the holidays.

Have a relaxing and enjoyable Christmas break and I look forward to receiving your newsletter contributions in 2013.

ILLUSTRATE ECOLOGY

Tree with a view…

Illustration by Andrew Veale.
Andrew will soon hand in his PhD thesis on the invasion ecology of the stoat, undertaken at the University of Auckland. He is using genetic techniques to evaluate the level of connectivity between stoat populations and to estimate how often they swim to islands. Andrew says "While I have almost a thousand stoats in the freezer, I feel a deep respect and bond to them."

INSIDE:

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The deadline for submissions for the next issue of this newsletter is ***Friday 1 March 2013****.*

NZES ANNUAL AWARDS 2012

TE TOHU TAIAO AWARD

Associate Professor Ian Jamieson

Nominated by Bill Lee and Deb Wilson, Landcare Research

We wish to nominate Dr Ian Jamieson for the 2012 Te Tohu Taiao Award. Since arriving from Canada to undertake his PhD studies at the University of Auckland in the early 1980s, Ian has made a significant contribution to ecology and conservation in New Zealand. This contribution has been based on rigorous and innovative science, a strong commitment to providing conservation management advice for threatened species, decades of teaching and mentoring post-graduate students investigating a broad range of issues on factors constraining small populations of native species, regular contributions at annual conferences of the NZ Ecological Society, and numerous invited presentations at international conferences. Ian's style is both professional and personable, and he is widely appreciated within the ecological and conservation community in NZ.

Ian Jamieson, 2012 recipient of the Te Tohu Taiao Award.

Ian has pioneered the study of the consequences of population bottlenecks and inbreeding depression for the recovery of threatened avian species. This research has led to a more rigorous approach to measuring the level of relatedness of all individuals in a population and to translocation strategies to maintain genetic diversity. Internationally, Ian is respected for his contribution to our understanding of the links between genetic diversity, inbreeding depression and individual fitness. He is Associate Professor in the Department of Zoology, University of Otago, and leads the Threatened-Bird Research Group at the Allan Wilson Centre for Molecular Ecology and Evolution. He has

Ian is a member of several national recovery groups (e.g. Takahe Recovery Group, Kakapo Recovery Programme) and has contributed significantly to efforts to manage the restoration of threatened bird species, especially once they are in a pest-free situation. He has identified inbreeding depression in threatened native species, showing its consequences throughout the life-cycle and over time. Recently, his research assessing benefits and risks to native birds of pest control practices has attracted public attention and helped to improve wider understanding of these issues. He has given many radio and television interviews and public seminars about animal behaviour, ecology and conservation.

Ian's record of scientific publications in international journals is extensive; many of these papers were co-authored with post-graduate students. He also co-edited the book

Lee, W.G. & Jamieson, I.G. (2001). The Takahe: Fifty Years of Conservation Management and Research. Dunedin, University of Otago Press. 143 p. Some recent journal publications are listed below.

Jamieson, I. G. (2011). Founder effects, inbreeding, and loss of genetic diversity in four avian reintroduction programs. Conservation Biology, 25(1), 115-123. doi: 10.1111/j.1523-1739.2010.01574.x

Sutton, J. T., Nakagawa, S., Robertson, B. C., & Jamieson, I. G. (2011). Disentangling the roles of natural selection and genetic drift in shaping variation at MHC immunity genes. Molecular Ecology, 20(21), 4408-4420. doi: 10.1111/j.1365-294X.2011.05292.x

Sutton, J. T., Robertson, B. C., & Jamieson, I. G. (2011). Dye shift: A neglected source of genotyping error in molecular ecology. Molecular Ecology Resources, 11(3), 514-520. doi: 10.1111/j.1755-0998.2011.02981.x

Tracy, L. N., & Jamieson, I. G. (2011). Historic DNA reveals contemporary population structure results from anthropogenic effects, not pre-fragmentation patterns. Conservation Genetics, 12(2), 517-526. doi: 10.1007/s10592-010-0158-9

Laws, R. J., & Jamieson, I. G. (2011). Is lack of evidence of inbreeding depression in a threatened New Zealand robin indicative of reduced genetic load? Animal Conservation, 14(1), 47-55. doi: 10.1111/j.1469-1795.2010.00388.x

Grueber, C. E., & Jamieson, I. G. (2011). Low genetic diversity and small population size of Takahe *Porphyrio hochstetteri* on European arrival in New Zealand. Ibis, 153(2), 384-394. doi: 10.1111/j.1474-919X.2011.01110.x

Grueber, C. E., Nakagawa, S., Laws, R. J., & Jamieson, I. G. (2011). Multimodel inference in ecology and evolution: Challenges and solutions. Journal of Evolutionary Biology, 24(4), 699-711. doi: 10.1111/j.1420-9101.2010.02210.x

Tracy, L. N., Wallis, G. P., Efford, M. G., & Jamieson, I. G. (2011). Preserving genetic diversity in threatened species reintroductions: How many individuals should be released? Animal Conservation, 14(4), 439-446. doi: 10.1111/j.1469-1795.2011.00448.x

Grueber, C. E., Waters, J. M., & Jamieson, I. G. (2011). The imprecision of heterozygosity-fitness correlations hinders the detection of inbreeding and inbreeding depression in a threatened species. Molecular Ecology, 20(1), 67-79. doi: 10.1111/j.1365-294X.2010.04930.x

Michel, P., Dickinson, K. J. M., Barratt, B. I. P., & Jamieson, I. G. (2010). Habitat selection in reintroduced bird populations: A case study of Stewart Island robins and South Island saddlebacks on Ulva Island. New Zealand Journal of Ecology, 34(2), 237-246.

Grueber, C. E., Laws, R. J., Nakagawa, S., & Jamieson, I. (2010). Inbreeding depression accumulation across life-history stages of the endangered Takahe. Conservation Biology, 24(6), 1617-1625. doi: 10.1111/j.1523-1739.2010.01549.x

Laws, R. J., Townsend, S. M., Nakagawa, S., & Jamieson, I. G. (2010). Limited inbreeding depression in a bottlenecked population is age but not environment dependent. Journal of Avian Biology, 41(6), 645-652. doi: 10.1111/j.1600-048X.2010.05164.x

Sutherland, W. J., Armstrong, D., Butchart, S. H. M., Earnhardt, J. M., Ewen, J., Jamieson, I., Seddon, P. J., Tatayah, V. (2010). Standards for documenting and monitoring bird reintroduction projects. Conservation Letters, 3(4), 229-235. doi: 10.1111/j.1755-263X.2010.00113.x

Jamieson, I. G. (2009). Loss of genetic diversity and inbreeding in New Zealand's threatened bird species. Science for Conservation, 293, 1-59.

Rhodes, B., O'Donnell, C., & Jamieson, I. (2009). Microclimate of natural cavity nests and its implications for a threatened secondary-cavity-nesting passerine of New Zealand, the South Island Saddleback. Condor, 111(3), 462-469. doi: 10.1525/cond.2009.080030

Rhodes, B. K., O'Donnell, C. F. J., & Jamieson, I. G. (2009). The roles of predation, microclimate and cavity abundance in the evolution of New Zealand's tree-cavity nesting avifauna. Notornis, 56, 190-200.

Jamieson, I. G., Grueber, C. E., Waters, J. M., & Gleeson, D. (2008). Managing genetic diversity in threatened populations: A New Zealand perspective. New Zealand Journal of Ecology, 32(1), 130-137.

Michel, P., Jenkins, J., Mason, N., Dickinson, K. J. M., & Jamieson, I. G. (2008). Assessing the ecological application of lasergrammetric techniques to measure fine-scale vegetation structure. Ecological Informatics, 3(4-5), 309-320. doi: 10.1016/j.ecoinf.2008.07.002

Taylor, S. S., & Jamieson, I. G. (2008). No evidence for loss of genetic variation following sequential translocations in extant populations of a genetically depauperate species. Molecular Ecology, 17(2), 545-556. doi: 10.1111/j.1365-294X.2007.03591.x

Taylor, S., Boessenkool, S., & Jamieson, I. G. (2008). Genetic monogamy in two long-lived New Zealand passerines. Journal of Avian Biology, 39(5), 579-583. doi: 10.1111/j.2008.0908-8857.04331.x

Grueber, C. E., Wallis, G. P., & Jamieson, I. G. (2008). Heterozygosity-fitness correlations and their relevance to studies on inbreeding depression in threatened species. Molecular Ecology, 17(18), 3978-3984 3978-3984 . doi: 10.1111/j.1365-294X.2008.03910.x

Grueber, C. E., King, T. M., Waters, J. M., & Jamieson, I. G. (2008). Isolation and characterization of microsatellite loci from the endangered New Zealand takahe (Gruiformes; Rallidae; *Porphyrio hochstetteri*). Molecular Ecology Resources, 8(4), 884-886. doi: 10.1111/j.1755-0998.2008.02098.x

Michel, P., Dickinson, K. J. M., Barratt, B. I. P., & Jamieson, I. G. (2008). Multi-scale habitat models for reintroduced bird populations: A case study of South Island saddlebacks on Motuara Island. New Zealand Journal of Ecology, 32(1), 18-33.

Grueber, C. E., & Jamieson, I. G. (2008). Quantifying and managing the loss of genetic variation in a free-ranging population of takahe through the use of pedigrees. Conservation Genetics, 9(3), 645-651. doi: 10.1007/s10592-007-9390-3

Jamieson, I. G., Tracy, L. N., Fletcher, D., & Armstrong, D. P. (2007). Moderate inbreeding depression in a reintroduced population of North Island robins. Animal Conservation, 10, 95-102.

Jamieson, I. G. (2007). Has the debate over genetics and extinction of island endemics truly been resolved? Animal Conservation, 10, 139-144.

Jamieson, I. G. (2007). Role of genetic factors in extinction of island endemics: Complementary or competing explanations? Animal Conservation, 10, 151-153.

Taylor, S. S., & Jamieson, I. G. (2007). Determining sex of South Island saddlebacks (*Philesturnus carunculatus carunculatus*) using discriminant function analysis. Notornis, 54(2), 61-64.

Taylor, S. S., & Jamieson, I. G. (2007). Factors affecting the survival of founding individuals in translocated New Zealand Saddlebacks *Philesturnus carunculatus*. Ibis, 149, 783-791.

Taylor, S. S., Jamieson, I. G., & Wallis, G. P. (2007). Historic and contemporary levels of genetic variation in two New Zealand passerines with different histories of decline. Journal of Evolutionary Biology, 20(5), 2035-2047.

Boessenkool, S., Taylor, S. S., Tepolt, C. K., Komdeur, J., & Jamieson, I. G. (2007). Large mainland populations of South Island robins retain greater genetic diversity than offshore island refuges. Conservation Genetics, 8, 705-714.

Ludwig, K., & Jamieson, I. G. (2007). Phrase types, repertoire size and repertoire overlap in the South Island saddleback (*Philesturnus carunculatus carunculatus*). Notornis, 54, 201-213.

Jamieson, I. G., Wallis, G. P., & Briskie, J. V. (2006). Inbreeding and endangered species management: Is New Zealand out of step with the rest of the world? Conservation Biology, 20(1), 38-47. doi: 10.1111/j.1523-1739.2006.00282.x

ECOLOGY IN ACTION AWARD

Associate Professor John Ogden

Nominated by Peter Edmonds, Emmy Pratt, Judy Gilbert (Trustees, Great Barrier Island Charitable Trust), Izzy Fordham, Sue Daly (Local Board members), Rodney Ngawaka (Ngati Rehua Ngati Wai ki Aotea), and Mick Clout (Professor of Ecology, University of Auckland).

John Ogden is well known as an academic ecologist who has published over 100 papers on many aspects of ecology, nearly all based on work done in New Zealand between c. 1968 and 2008. Over those 40 years John also taught many students (supervised c.50 post-graduate students) and spoke at many NZ Ecological Society and international conferences. He is an honorary Life Member of the New Zealand Ecological Society and in 2009 received the Te Tohu Taiao award for Ecological Excellence. What is less well known is that John was also frequently involved in local and national environmental issues involving the transfer of ecological knowledge. He played a significant role in stopping the logging of native forest at Whirinaki[1] .Some of this 'non-academic' work has been done under contracts to local bodies (e.g. The Auckland Regional Council)[2], but much of it has been voluntary and unpaid—such as displays for Auckland Museum, and Matakohe Kauri Museum , many discussions with Department of Conservation personnel over conservation issues in the field or committee room, and with local iwi over matters related to Treaty Claims on Great Barrier Island. Because most of this work has been spontaneous and has not led to publication, it is hard to document in detail. However, since John retired and took up more permanent residence on Great Barrier Island his role can be clearly perceived.

In 1998 John became involved in an attempt to stop inappropriate subdivision on Great Barrier Island. Although the proposals were eventually supported by both the Auckland Council and the Department of Conservation, John and others continued to oppose them, arguing that they put the Awana brown teal flock at further risk of extinction and could not be supported under the terms and definitions of the District Plan. In a landmark decision of the Environment Court, consent for the proposal was refused[3] This case turned largely on John's ecological expertise, the quality of the data he presented, and his high standing in his profession.

In 2000 John helped to found the Awana Beachcare Group and became an advisor to the Awana Catchment Trust. In 2001 he contributed a chapter on vegetation to "Great Barrier Island" (Ed. Don Armitage), an important source

1 Morton, J. **Ogden**, J., Hughes, T., and MacDonald, I. (1984) To Save a Forest - Whirinaki. Bateman, 111 p.

2 e.g. Ten reports to Auckland Regional Council, on permanent monitoring of possum damage in the Waitakere Ranges, with C. Buddenhagen et al. 1995 – 1999. Three submissions to The Environment Court, and expert witness. 1999.

3 Environment Court TCS No : GS/98/58. Commissioner M. Hayman. 26 June 1999.

of information for tourists and residents, and soon after became a trustee of the Windy Hill Catchment Trust—a group of private individuals undertaking extensive rodent control and ecosystem restoration over 620 ha. on the southern end of Great Barrier.

In 2002 John became a founder member and Chairman of The Great Barrier Island Charitable Trust (GBICT). The mission of this group is to eradicate rats and feral cats totally from the whole of Great Barrier Island, to reintroduce species lost to the Island since European take-over, and to build an ecology-based economic framework. The vision, in combination with Ngati Rehua /Ngati Wai ki Aotea, is to bring back kokako to the Island as a breeding population. This involvement with local Iwi in conservation is one of the most significant achievements of the GBICT under John's chairmanship.

The GBICT has gradually changed the attitudes of many residents and landowners on Great Barrier. The Trust has made submissions on local issues, including the Long Term Plan for the Island (Auckland City), the Conservation Management Strategy (DOC), the mining issue (central government) and stream pollution (AC). John has spoken about some of these issues on the local radio station. In 2010 John was one of the lead authors of the "Great Barrier Island State of Environment Report"—perhaps the first such report produced by a private body in New Zealand. [4] This is a substantial document with much information about the biota and environment of the Island. The Trust has organised speakers, public meetings, workshops and day trips to Tiritiri Matangi Island in an attempt to raise awareness of the plight of Great Barrier's remaining rare and endangered birds. They have applied for and received funding from DOC (Advice Fund) for community involvement in this work —including over 70 local people in bird monitoring over several years. John wrote four detailed reports on this work[5] and published accounts of it in the Trust's newsletter "Environmental News". In addition to the formal monitoring John organised many locals to make counts of kaka, and again the results were recorded and publicised. John's numerous contributions to both Environmental News (since 2004) and "Bush Telegraph" (since 2011) are listed in Tables 1 and 2 (excluding those in which he was involved but not main author).[6] All of these items are clearly intended for the 'grass-roots' level in the local community, but, in addition John has co-authored two papers about the Trust's work presented at conferences and published internationally[7].

*John Ogden, recipient of the 2012 Ecology in Action Award holding a dead kiore (*Rattus exulans*) on Great Barrier Island, and a vial containing the tip of the tail for DNA analysis by Rachel Fewster. John estimates there are another 285,999 rats (mostly* Rattus rattus*) still to go.*

John has been closely involved with the research projects at Windy Hill, and written several reports on the results of bird monitoring there. He has also analysed and reported on the pre- and post-predator-proof fence bird counts at

4 See: www.gbict.co.nz under "Reports"

5 **Ogden**, J. (2006 – 2007). Great Barrier Island Charitable Trust. Biodiversity Advice Fund Reports 1–4. Reports to Dept of Conservation (Grant reference AV207). [Each report c. 20 pages]. **Ogden**, J. (2009). Great Barrier Island Charitable Trust. Final Report on Birds of Great Barrier Island 2006-2008. Department of Conservation, Biodiversity Advice Fund AV 207. Pp. 53.

6 Environmental News was quarterly until 2011, when the Bush Telegraph was initiated quarterly and Environmental News became 6-monthly. The News is intended for more in-depth items and the Telegraph for bite-sized easy reading. The current circulation is c. 1800, free to residents, off—island ratepayers and members of the Trust.

7 **Ogden**, J., Gilbert, J. 2009. Prospects for the eradication of rats from a large inhabited island: community based ecosystem studies on Great Barrier Island, New Zealand. Biological Invasions. 11:1075–1717. **Ogden**, J. & Gilbert, J. 2011. Running the gauntlet: advocating rat and feral cat eradication on an inhabited island: great Barrier Island, New Zealand. In: Veitch, C. R., Clout, M. N. & Towns, D. R. (Eds). Island Invasives and Eradication. Pp 467–471. IUCN, Gland, Switzerland (Available from: Manaaki Whenua Press, Lincoln, New Zealand)

Glenfern Sanctuary[8]. In addition John has made submissions to the Local Board on aspects of Community Consultation, stream pollution and the problems posed by rats and cats to the Island's endangered birds. It was arguable through the efforts of the Trust that the Local Board set up an Environmental Strategy and Planning Committee, and instigated workshops on ecological issues of importance to the community.

John is a father of four and a grandfather of five, and has skill in communicating ecology to children. He has taken part in TV films made with this aim by DOC, and actively engaged with local schools. The GBICT instigated an environmental award for school children on the Island, and John has given talks at all three local schools (children 5 - 9 years). For the last three years he has organised the community shellfish monitoring on Whangapoua estuary. This involves coordinating the children from three schools to do the cockle counts, analysing the data and submitting it to DOC, Hauraki Gulf Forum and Ministry of Fisheries, and giving follow-up talks at the schools.

To summarise: In the first decade of the GBICT's existence it has made significant contributions to environmental awareness and ecological understanding on Great Barrier, at levels ranging from the Local Community Board to local school children. John's role in this has been pivotal. His contribution is always to emphasise that monitoring without reporting is useless, and that reports which do not lead to action are equally so! He gets his message across by stating the facts simply and pointing out the alternative actions and their ecological consequences as objectively as possible.

Table 1. GBICT *Environmental News* items by John Ogden.

year	No.	pages	Title of article
2004	1	9-10	Rats and ecology on Great Barrier Island
2005	2	7-11	Prospectus for the introduction of kiwi for Great Barrier Isl.
2005	2	11	Notes from the field. New Zealand Dotterel
2005	3	7-9	An analysis of rat trapping results on Little Windy Hill
2005	4	6-8	Rats eat forest!
2006	5	1-2	Editorial
2006	6	7-9	Birds of Great Barrier Island
2006	7	7-8	The great Great Barrier Island bird count: July 2006
2006	7	9-12	Interview: Panel of Experts (on rodent eradication)
2006	8	1-2	Editorial
2006	8	9-10	The second Gt. Barrier bird count
2007	9	3-5	Third bird count
2007	11	13-14	Bird count 4.
2008	13	5-6	Prospectus for the re-introduction of kiwi to Great Barrier Isl.
2008	13	7-8	Boxing day kaka count
2008	14	2-4	Cat confusion: playing God on the Barrier.
2008	15	1	What's all that green stuff on the beach?
2008	15	9-10	The Conservation Management Strategy (CMS) Review meeting.
2008	16	5-6	The second kaka count – 7th September 2008.
2009	17	2-5	Report on: "State of GBI Environment Report"
2009	18	2-5	Kanuka and carbon sequestration. Just pie in the atmosphere?
2009	18	12	Comment from John Ogden (on rabbits and brown teal)
2009	20	1	Brown teal holding on to the Barrier
2009	20	7-8	The seaweed saga continues.
2010	21	1-3	Editorial
2010	21	4-7	Submission (mining on Great Barrier Island).
2010	23	1-2	Editorial: 2010 The year of the Environment on Great Barrier

8 **Ogden**, J. & Gilbert, J. (2005). Rodent trapping results from Windy Hill and Benthorn Farm, Great Barrier Island: 1999-2004. Report to Windy Hill Trust. Pp. 23. **Ogden**, J. (2007). Analysis of 5-minute bird counts from Glenfern Sanctuary, Great Barrier Island: 2002 – 2006 (Pre-fence). Report to Glenfern Sanctuary Trust. Pp. 16 . **Ogden**, J. (2009–2012). Bird Counts: Reports 1 – 6. Reports to: Little Windy Hill Co. Pp 11, 11, 15,22, 12, 29, plus CD and powerpoints. Ogden. J & Thomson, P. 2012. Analysis of 5-minute bird counts from Glenfern Sanctuary, Great Barrier Island: 2005-2006 (pre-fence) and 2010 – 2011 (post-fence). Glenfern Sanctuary Restoration Trust Report GFJO2. Pp 23.

2010	23	5-7	Island Invasives Conference
2010	23	9-10	No bitterns at Kiwiriki?
2010	23	13-14	Kaka count; July 2010.
2011	24	7-11	Boxing day kaka count – and some conclusions
2011	25	1-2	Editorial. Environmental wellbeing and the return of kokako
2011	25	13-14	Shellfish count at Whangapoua 2011
2011	27	1-3	Editorial. Local politics and extra-sensory perception

Table 2. GBICT Bush Telegraph items by John Ogden.

2011	1	Plant of the month: Mairehau
2011	1	Barrier Good Sorts: Alan Gray – on environmental change, cats and conservation
2011	1	Windy canyon to Hiakimata
2012	2	Plant of the month - clubmoss
2012	2	Wandering albatross on Medland's beach
2012	3	Bitterns on the Barrier
2012	3	The seaweed saga no. 3
2012	3	What we don't know we don't know: the trumpet shell

BEST PUBLICATION BY A NEW RESEARCHER

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

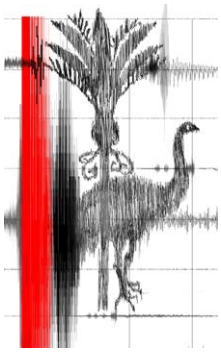
Merodie Beavon

Beavon, M. A. and Kelly D. (2012) Invasional meltdown: pollination of the invasive liana *Passiflora tripartita* var. *mollissima* (Passifloraceae) in New Zealand. New Zealand Journal of Ecology 36(1): 100–107.

Abstract

Banana passionfruit (*Passiflora tripartita* var. *mollissima*) is an invasive vine in New Zealand where it lacks its natural hummingbird pollinator. We investigated the mating system and reproductive traits that facilitate its spread in the Marlborough Sounds. Flower observations revealed that visitors were almost exclusively introduced honeybees and bumblebees, indicating an invasive mutualism. We investigated the pollination system of banana passionfruit by comparing fruit set, fruit size, seed set, and germination success between hand-selfed, hand-crossed, bagged and open flowers, and inbreeding depression in seedlings grown in competition. Fruit set was reduced by 83% when pollinators were excluded (3.0% fruit set, compared with 18.0% for unmanipulated flowers) indicating reliance on pollinators for reproduction. While banana passionfruit is partially self-compatible, fruit set was significantly reduced in hand-selfed flowers (17.5%) compared with crossed flowers (29.5%), and we found significant pollen limitation (hand-crossed vs unmanipulated, Pollen Limitation Index = 0.39). There was no significant inbreeding depression found in fruit size, seeds per fruit, germination success, seedling growth or seedling survival. Combining these data showed that natural unmanipulated flowers produce more seedlings per flower (1.7) than bagged flowers (0.9), but fewer than hand-selfed (3.0) and hand-crossed (5.3) flowers. Thus, reproduction in *Passiflora tripartita* var. *mollissima* is facilitated by an (imperfect) new association with exotic bees.

NZES CONFERENCE 2012



25–29 November 2012

Lincoln University

Is New Zealand ecology on solid foundations?

STUDENT AWARDS

Adrian Paterson, Lincoln University

The NZ Ecol Soc conference was hosted successfully by the Lincoln University Department of Ecology in the last week of November. More than 250 candidates enjoyed four days of talks and fieldtrips. The number of student presentations was noticable this year, 43 student talks and 11 posters, as was their quality. The awards went to students from around the country:

- Best student poster—Sharada Paudel (Victoria University of Wellington) "Are there distinct phenological seasons in New Zealand plant communities"
- Best student talk—Belinda Whyte (Lincoln University) "Changes in possum patial ecology following density reduction: implications for conservation and bovine turberculosis management"
- Runner-up best student talk—Christine Sheppard(University of Auckland) "Predicting weeds in a changing climate: are bioclimatic models validated by field trials?"
- Best student talk on an animal theme—Sarah Wells (Massey University) "Love thy neighbour: mating systems and cuckoldry in the tui"
- Best student talk on a plant theme—Olivia Burge (University of Canterbury) "Restoring a RAMSAR wetland - by reforesting it?"
- Best student talk on a microbe theme—Paulina Giraldo-Perez (University of Auckland) "The impact of the selfish gene on the ecology of yeast"
- Best student talk on a conservation theme—Emily Weiser (University of Otago) "Population viability of highly inbred black robins"

Well done to all of the speakers—a great standard of talks.

POST-NZES CONFERENCE WRITING WORKSHOP

How to get some writing done: the story of 16 up-and-coming ecologists, prickly matagouri and no internet

Ellen Cieraad, Landcare Research

It is amazing what a focussed weekend away with a group of people with a common goal, and away from phones and internet-access, can do to advance your chapter or manuscript!

Following the recent annual conference at Lincoln University, the NZES organised a writing workshop and retreat for early-career ecologists at Cass. Two aims of the Society are to foster the publication of ecological research, and to support emerging ecologists (NZES Draft Strategy Document, 2012) – this writers' retreat was a step towards both.

Three seminars by established scientists at Landcare Research kick-started the retreat, and they were very well-received—Ian Dickie gave a great overview of why we write, how to plan and structure a manuscript, and how technology sometimes doesn't help in this process. Matt McGlone talked about how to cut the fat out of scientific sentences, and greatly improve the readability of your manuscript. Lynley Hayes discussed other ways of communicating your research to the wider public, including YouTube, blogs etc. After this great start, all 16 recruits piled into vans and made their way to the retreat location of the Cass Field Station (Canterbury), where we would be working on our manuscripts for the next two-and-a-half days. Some mean beans, great walks, good discussions, even prickly matagouri provided welcome distractions—but we all got a lot of writing done!

Writing retreat attendees hard at work at Cass Field Station.

Just in case you're thinking… this was not a party-weekend. We slaved away in front of our computers, while the wind was howling around the Cass Field Station. We missed out on a Christmas parade in 30°C heat in Christchurch city; instead we filled the Station with the air of extreme focus and the noise of typing—otherwise it was strangely silent. Every so often coal carriages would rumble past us—but we kept quiet as to not make your neighbour lose their brilliant train of thought. The effect of a bit of positive peer-pressure was astounding.

Was this trial writers' retreat a success? Judging from the thoughts on the weekend by our hard-writing attendants: YES! (see boxes for some of their comments). We hope it will become a regular event in association with the annual conference.

A walk during a well-deserved break provides stunning views over the Cass Field Station (photo: Robert Schadewinkel).

"An outsider would think we're total geeks…" – Ronny

"I needed a push to get going, now I'm very motivated to finish this paper" – Emily

Emily Weiser: "The NZES writers' retreat was a productive and fun weekend. I came away from the lectures Friday morning feeling motivated and inspired to sit down and write well! When we arrived in Cass, I took what we had learned from Ian about structuring a piece of writing and started from scratch with the manuscript I wanted to work on… The change of scenery helped me focus on my work—though I did escape for a walk on Saturday, picking my way up the hill through the matagouri. The lack of internet definitely helped too, as did being surrounded by people who were likewise intent on being productive. Chatting in the sun over a cup of tea or helping out with chores around the lodge provided welcome breaks without distracting me so much that it prevented me from going back to work after a quick break…"

Emily Weeks: "It was very refreshing to hear that these established well-published scientists too (even after their many years of writing) 'struggle to write'."

"An enjoyable and productive few days, in a beautiful location" – Emily

Jenny Hurst: "The writing weekend was a real success for me—I managed to rewrite both a discussion and introduction for a paper/thesis chapter! The talks on Friday morning were also very useful and it was good to have the writing tips that were given to us close to mind over the weekend."

Rasmus Gabrielsson: "While we all got a fair chunk of actual writing done, for me personally the impromptu late evening 'help me come up with a title' session was a real highlight."

Chloe MacLaren: "The writers' retreat was a lovely opportunity to get some work done on nature's doorstep. Popping outside for a breath of fresh air between paragraphs is so much more refreshing when you're in the mountains than when you're stuck in town."

Ronny Groenteman: "An outsider would think we're total geeks, but I'm convinced everyone in the room found the 'title bashing' a fun and useful exercise. What a brilliant way to crystallise a message! We all ended up with catchy, short yet informative titles."

P.S. The 2012 retreat recruits were Anna Zakharova, Jenny Hurst (Canterbury University/Landcare Research), Belinda Whyte, Chloe MacLaren, Hannah Lewis (Lincoln University), Bryce Masuda, Emily Weiser, Robert Schadewinkel (Otago University), Emily Weeks, Ronny Groenteman (Landcare Research), Phillip Cochrane (Environment Canterbury), Rasmus Gabrielsson (Cawthron Insitute), Richard Ewans, Scott Freeman (DOC) and Tarryn Wyman (Canterbury University). All costs were covered—with accommodation and food during the writers' retreat provided by the NZES, made possible by the successful 2011 Rotorua conference, and logistics and transport sponsored by Lincoln University and Landcare Research. Thanks for your support!! A big thanks also to Ian Dickie, Matt McGlone and Lynley Hayes for their very informative and motivating seminars! The Writers' retreat was organised by Ellen Cieraad (Landcare Research) and Tim Curran (Lincoln University). We are both members of the International Network of Next-Generation Ecologists (www.innge.net), and are planning on making available more events and resources for early-career ecologists on the NZES website and through an email list. We will keep you posted through the Newsletter.

ARTICLES

BACKDUNE ENVIRONMENTS FOCUS OF THREE YEAR RESEARCH AND ENGAGEMENT PROJECT

Kirsten Crawford, Dune Restoration Trust

To date, dune restoration work in New Zealand has focused primarily on restoration of native sandbinders on the most seaward dune face which are critical to maintaining natural dune form and function. However, many community groups are now moving into the restoration of indigenous biodiversity in backdune areas and facing considerable challenges. These areas are very complex due to greater species and community diversity, a range of sub-environments, and serious problems with invasive exotic vegetation, grazing animal pests, and human pressures. Whilst the key to planting coastal sand dunes is matching species to appropriate zones, identifying these zones can be very challenging. The limited information we have tells us that proximity to the coast and shelter are key factors in influencing survival and growth rates.

The Dune Restoration Trust of New Zealand (Dunes Trust) is into Year Two of a three-year Ministry for the Environment's Community Environment Fund project that sets out to enhance the capacity of local communities, councils and the Department of Conservation to undertake restoration of indigenous biodiversity in coastal backdune environments.

The project involves extensive review of existing knowledge, setting up demonstration areas and monitoring sites, undertaking field-based workshops, and providing practical guidelines for backdune restoration. We are working in eight regions from Northland to Southland at over 50 coastal sites. This nationwide coverage will ensure we deal with a wide range of dune environments and climatic settings.

*The **variation between backdune environments** in New Zealand is immense. As the Dunes Trust CEF Team are finding out, each site has its own unique qualities and challenges. Here at Petone Beach, Wellington, where the natural dune system is constricted by development, roadside plantings of backdune species are providing seed sources for semi stable dunes within metres of the seaward side of the sea wall.*
Photo: M. Bergin

*Weeds are the **number one issue** at many back dune sites. The cost and effort of control and removal seems endless. So, true to kiwi nature - locals are coming up with innovative and site specific ways to deal with weeds that reduces cost and effort. At Proctors Beach in Northland, on-site compost bins have been built. It may not work everywhere, or for every weed – but it suits this site.*
Photo: M Bergin.

***Demonstration sites** have been set up throughout the country. In the western Waikato region sites include the Marokopa, Aotea and Ruapuke beaches and represent different coastal settings and degrees of exposure. Unlike most beaches along the east coast of the upper North Island, west coast beaches are highly dynamic where persistent and often strong onshore westerly winds and large volumes of sand have a significant effect on the dune morphology and coastal ecology.*
Photo: S. Stephens.

*The need for **several levels of monitoring** has been identified by Coastcare groups and management agency staff. These include: a method of determining baseline dune profile data and using belt transects; guidelines for comparing management techniques; monitoring the establishment of rare local native species; monitoring the impact and effectiveness of restoration activities on natural regeneration.*
Photo: Greater Wellington.

***Maintenance** of plantings is a key factor in success. A wide range of backdune native species have been established at Caroline Bay by the Timaru District Council over the past three years. An excellent maintenance programme, particularly for weed control, has seen very high survival rates and growth of native species. Restored backdunes areas are now being used by penguins.*
Photo: M. Bergin.

Project updates including case studies of demonstration sites can be in found our Project Partners Newsletters on the Dunes Trust website www.dunestrust.org.nz/projects/.

Upcoming Dunes Trust events and applications

Annual Dunes Trust conference, Nelson 5–7 March 2013: http://www.dunestrust.org.nz/news-and-events/conference-2013/

Dunes Trust / Quinovic Property Management Student Study Award, applications for 2013 are open. http://www.dunestrust.org.nz/annual-awards/

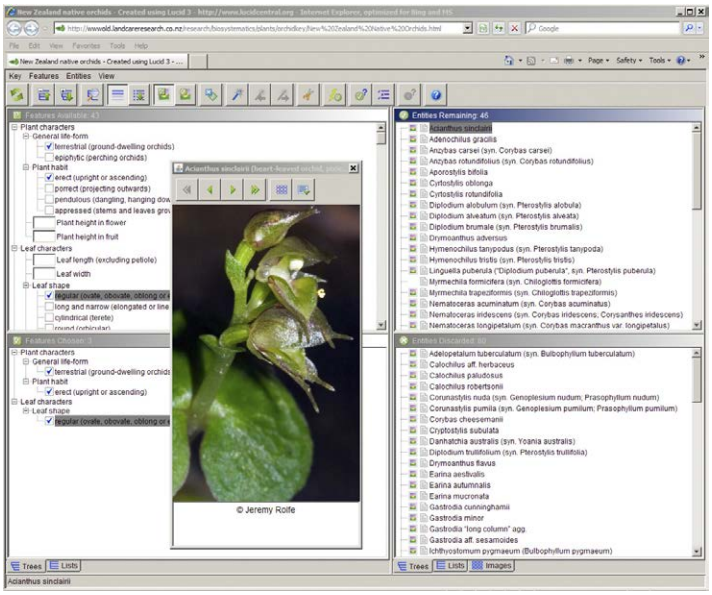
Nominations for the annual Dunes Trust 'Best Coastal Restoration Project' and 'Best Coastal Community Group' awards are now open - http://www.dunestrust.org.nz/annual-awards/

For more information on these activities go to www.dunestrust.org.nz or contact info@dunestrust.org.nz.

The Backdune Restoration Project is supported by the Ministry for the Environment's - Community Environment Fund, the Department of Conservation, Greater Wellington, Auckland Council, Waikato Regional Council, Northland Regional Council, Tasman District Council, Environment Canterbury, Bay of Plenty Regional Council, Timaru District Council, Living Legends and the Project Crimson Trust, and Te Kohaka O Tuhaitara Trust.
The Dunes Trust is financially supported by research partners, project sponsors, members and our Premier Principal Sponsor, Quinovic Property Management.

NATIVE ORCHID KEY NOW ONLINE

Murray Dawson, Landcare Research



A new interactive identification key to New Zealand's native orchids is now live on the Landcare Research website (www.landcareresearch.co.nz/resources/identification/plants/native-orchid-key). This replaces an early demonstration version of the key.

This is a joint project between Murray Dawson of Landcare Research, Lincoln, Wellington-based author and photographer Jeremy Rolfe, and the New Zealand Native Orchid Group (NZNOG). We sincerely thank members of the NZNOG and others who have generously contributed their outstanding image collections and other help to the project.

This new tool is easy to use and provides rapid and accurate identification to the native orchids. There are currently 124 species and informal entities as main entries in the key, with further tag-name entities captioned under species aggregates. 40 characters and 214 character states are used to identify them.

Links within the key connect other biodiversity resources—the Landcare Research Plant Names database, the NZNOG orchid profiles, and New Zealand Plant Conservation Network (NZPCN) pages.

This new key is part of a series of Lucid™ keys to the New Zealand flora being developed at Landcare Research. These include keys to flowering plant genera of New Zealand, weed species, and grass species.

A help file explains how to use interactive keys (www.landcareresearch.co.nz/resources/identification/plants/lucid_help). There is also a link on that page to troubleshooting—what you need to do if the key does not work for you.

The orchid key is a two year project, scheduled for completion in May 2013. Funding was provided by the TFBIS (Terrestrial & Freshwater Biodiversity Information System) programme.

There is still time to incorporate further images and feedback from users—so please give the key a try and feel free to contribute!

JS WATSON TRUST GRANTS

Mary McEwen, NZES representative, J S Watson Trust assessment committee

Ten grants for conservation projects were allocated for the 2011-2012 year by the Trust, which is administered by Forest & Bird. Details of the latest projects to be supported are as follows:

- Susanne Claudia Krejcek of Victoria University of Wellington will be identifying reptile friendly ways of converting marram dunes to native dominated dunes.
- Kyle William Morrison of Palmerston North will be studying factors affecting the population dynamics of Eastern Rockhopper Penguins on Campbell Island.
- Will Rayment of University of Otago will be investigating the recovery and recolonisation by New Zealand southern right whales.
- Kate Richardson of Ecology Group, Massey University, will be studying the dispersal and habitat selection in an establishing hihi population.
- Lindsey Rowe of Kaikoura will be conducting research to determine the feeding range of little blue penguins breeding at South Bay, Kaikoura.
- Jay Ruffell of Auckland will be studying the interactive effects of forest loss and invasive mammals on New Zealand birds.
- Wayne Todd of Moehau Environment Group will be continuing work on the Waikawau Bay Estuary and Wetlands Restoration project.
- Sarah Jane Wells of the Ecology and Conservation Group, Institute of Natural Sciences, Massey University, will be investigating the phylogeographic origin and consequences of geographic isolation in the Raoul Island tui.
- Kerry Anne Weston of Department of Zoology, University of Otago, will be studying the conservation genetics of the alpine rock wren.
- Benjamin Hayden Wiseman of Department of Ecology, Lincoln, will be identifying reservoirs of genetic diversity on Bank's Penninsula.

CONFERENCE REPORT

10th Annual Sanctuaries Workshop

Taranaki 8–10 August 2012

John Innes, Landcare Research

Sanctuaries of New Zealand is an informal network of biodiversity sanctuaries that share common goals and approaches in their efforts to restore New Zealand's special biodiversity. There are 62 wildlife sanctuaries, totaling about 56,000 ha, on or near the New Zealand mainland where mammal pests are controlled or have been eradicated. They are a group of projects that aim to eradicate the full suite of pests (or achieve near-zero pest densities) from their chosen areas, reintroduce missing species including many rare and endangered species, and involve local communities in restoration. Since 2004, Landcare Research has hosted the Sanctuaries NZ website www.santuariesnz.org and our Hamilton ecologists have coordinated an annual workshop to share research findings and best practice among sanctuaries practitioners. In August 2012 about 75 sanctuaries practitioners and scientists gathered near Inglewood in Taranaki for the tenth annual sanctuaries workshop. As in previous years, this was organised by John Innes, Corinne Watts, Scott Bartlam, Danny Thornburrow and Neil Fitzgerald.

Sanctuaries Workshop attendees start walks at the Lake Rotokare Sanctuary (Photo: John Innes).

There was a day of science talks, a half day symposium on mice, and a half day field trip to Lake Rotokare pest-fenced sanctuary, near Eltham. Speakers included John Innes, Grant Norbury, Debra Wotton (all Landcare Research), and Trent Bell and Sarah Herbert (EcoGecko). Alan Saunders (also Landcare Research) gave a talk on behalf of Andrea Byrom and Susan Timmins (DOC) about pest-free New Zealand. John Innes covered mouse impact research by a number of

Some chose an easier way to get up the lake (Photo: Danny Thornburrow).

Landcare researchers. Chris Fowles (Taranaki Regional Council) spoke about bio-monitoring in the TRC region, and paid credit to Stephen Moore (Landcare Research) whose images of freshwater invertebrates now underpin a new on-line ID tool http://www.landcareresearch.co.nz/resources/identification/animals/freshwater-invertebrates.

Lake Rotokare is a scenic, mouse-free, 220 ha forested reserve with a lake that is still used for water skiing. The fence is built entirely on the catchment ridgeline to limit tree damage to it, and the project has only one culvert to minimise pest reinvasion. The reserve is already dripping with fernbirds; one volunteer who has lived 3 km from the reserve for 30 years, found fernbirds in his garden this year for the first time.

Sanctuaries practitioners seem likely to form a Sanctuaries of NZ incorporated society, to meet their own objectives, but there was universal support for Landcare Research to continue to organise this annual science workshop for another 10 years.

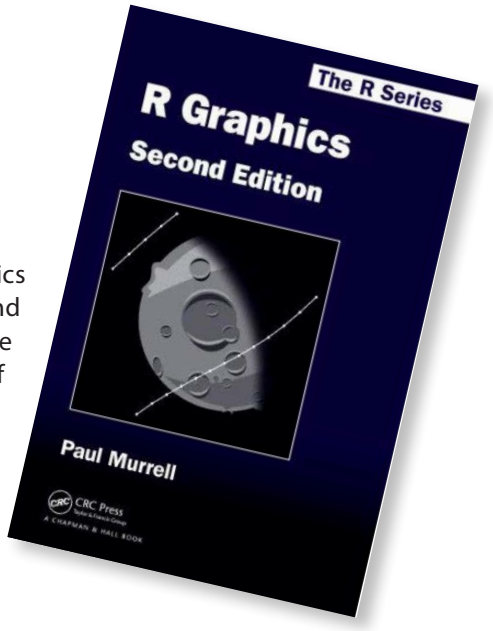
The Xcluder Pest-proof fence sits atop the catchment ridgeline of Lake Rotokare, near Eltham in Taranaki (Photo: John Innes).

The ridgeline pest-fence at Rotokare is discussed by (from left to right) Simon Collins, Rotokare; Grant Norbury, Landcare Research; Elton Smith, Orokonui; Matt Maitland, Tawharanui, Rick Field, The Brook (Photo: John Innes).

BOOK REVIEW

R Graphics, second edition

Reviewed by Debra Wotton, Landcare Research



Author: Paul Murrell
Publisher: Chapman & Hall/CRC Press, Florida
Published: 2011
ISBN: 978-1-4398-3176-2 (hardcover)
518 pp.

This book is a handy reference for anyone who wants to create graphics using R. For the uninitiated, R is a computer programming language and environment for statistics and graphics (see http://www.r-project.org/). One of R's obvious advantages is that it's free. R also provides a wide variety of statistical and graphical techniques, and because it's Open Source, it can be extended easily via packages, which users create and make freely available online. This makes R extremely flexible. In addition, R enables you to create graphics suitable for publication in peer-reviewed journals.

R Graphics is aimed at those who are already familiar with using R. If you have never used R before, you will need to learn the basics first (Michael Crawley's book [1] is a good introduction). However, you don't need to know anything about graphics in R, as the book covers everything from creating basic plots (e.g. scatterplot, barchart etc.) through to complex three dimensional graphs, animated plots and maps. I've been using R since 2004 and started experimenting with R graphs in 2005. I was asked to run an R Users workshop at University of Canterbury on creating graphs in R, despite knowing almost nothing about this topic. From then on I was hooked. I used the first edition of *R Graphics* [2] for my PhD thesis and found it very helpful.

Paul Murrell is probably the leading expert on R graphics. Both the first and second editions of *R Graphics* cover the traditional graphics system, which is part of the basic R installation, and two additional graphics systems, *grid* and *lattice* (available as packages). Although *R Graphics* gives a good introduction to the basics of *lattice* graphics, if you're after more detailed information on *lattice*, try Deepayan Sarkar's book [3]. Sarkar created the *lattice* package and this book provides comprehensive coverage of how to use this graphics system in R.

Major changes to the second edition of R Graphics include an additional chapter specifically devoted to the *ggplot2* package and a new section describing the many graphics packages and tools in R. These include some nifty packages for creating colour sets suitable for people with some form of colour blindness (the *dichromat* package) and carefully selected colour palettes for maps (*ColorBrewer*). There are also new chapters on 'Node-and-edge graphs' (e.g. networks and flow charts), '3D graphics', and 'Dynamic and interactive graphics'. Murrell, based at Auckland University, uses data from the September 2010 Canterbury earthquake to illustrate how three dimensional graphics can be created in R.

The text in the book is clear and the examples are invariably easy to follow. There are many helpful figures that illustrate the graphs in the examples, and the R code to produce them is included in the book, with the full code available online. One of the strengths of this book is the level of detail provided. This enables readers to create the graphics they want without trying to navigate through the sometimes obscure online R help. I've been able to produce the desired graphs simply by adapting the code from the book to suit. I have to admit I haven't had the same degree of success with Sarkar's book [3], which seems less detailed despite covering only a single graphics package.

The book doesn't cover which plots are most appropriate for a particular type of data, or give guidance on best-practice graphical presentation. However, Murrell tells readers where to find this information in other books on these topics and also includes a lengthy bibliography, which is useful.

The *R Graphics* index is very useful — this is the kind of book that you don't need to read from cover to cover but can simply look up the table of contents or the index to find a general topic or specific entry. I've used the book countless times to find out how to customise a particular aspect of a graph and have always been able to find what I'm looking for. As R users will testify, there are usually multiple ways to achieve the same results in R. This book provides the inspiration to see what graphics can be produced in R — after that, you're pretty much limited only by your imagination.

R Graphics will be equally useful to those just starting to use R as to experienced users. I'll be keeping my copy handy.

References

[1] Crawley, Michael J. (2005) *Statistics: An Introduction using R*. Wiley.

[2] Murrell, Paul (2006) *R Graphics*. Chapman & Hall/CRC Press. 301 pp.

[3] Sarkar, Deepayan (2008) *Lattice: Multivariate Data Visualisation with R*. Springer, New York.

NEWS FROM COUNCIL

PRESIDENT'S ANNUAL REPORT

Mel Galbraith

I am pleased to present the annual report for the New Zealand Ecological Society for this year's AGM. The New Zealand Ecological Society plays a pivotal role in meeting the professional needs for both practicing and emerging ecologists, and we have continued to strengthen the Society's capacity to deliver these needs over the year.

The conference is the central event in the Society's calendar. Last year, the conference was run in partnership with the NZ Society of Plant Biologists, with the theme "Ecology in the heartland". The conference was a roaring success, and I acknowledge the contribution to the event the organisers, Chris Bycroft and Willie Shaw and their team. The conference included 10 symposia that demonstrated the common interests of the 2 societies, and field trips that focussed on the geothermal specialities of the area.

The New Zealand Journal of Ecology continues to maintain an excellent standard. Early in the year, Kevin Burns (aka KC) stepped down as Journal Editor. We acknowledge KC's constant striving to consolidate the Journal's standing

on the global stage, achieving a significant improvement in the Journal's impact factor through management of the timing of publication. The position of Editor-in-Chief was filled by Jo Hoare, and we welcome her enthusiastic approach to the role. We again extend our thanks to the editorial and technical teams for their time and efforts to provide the Society with such an excellent publication.

Our newsletter is an essential communication link with our members. I thank the editor, Debra Wotton, for her excellent work in writing and sourcing a range of articles of ecological interest as well as ensuring the essential event notices are comprehensive and current. I encourage all to consider contributing to the newsletter as material from members can only serve to strengthen the value for members, and indeed reflect the nature of the Society.

Over the year, we have reinforced closer ties with the Ecological Society of Australia through concluding arrangements for reciprocal membership—to be called the 'Tasman Linkage'. In addition to formalising an interchange of award winners to present at conferences, this arrangement will offer a discounted membership to the other Society, with electronic access to publications and member rates at their conference. The ESA will be launching the Tasman Linkage membership at their AGM in Melbourne in December.

Inspired by a strategy document adopted by the ESA, we embarked on a similar exercise as a means of 'future-proofing' the Society. The strategy will not entail major shifts in direction for the society, but will ensure that future implementation of the Society's objectives incorporate the needs of ecology and members in changing social and technical environments. It is important to note that many of our current activities, such as the Kauri Seed Scholarship and the writing workshop to follow this conference, are already consistent with the actions identified in the strategy. This strategy is in draft form, and the Council will finalise the elements over the coming year.

Finally, I would like to recognise and thank my fellow Council members—Shona, Clayson, Fleur, George, Ellen, Deb and Laura—for their support and inspired input to the management of the Society over the year.

MEMBERSHIP & SUBSCRIPTION REPORT 2011

Shona Myers, Secretary

As at 14th November 2012 the total membership of the New Zealand Ecological Society is 592. This represents a decrease in membership since 2011. This decrease is across all categories.

The total count of members includes those in arrears for this year with just over 70% of subscriptions paid at the time these statistics were generated. Journal subscriptions currently total 87 for 2012 (cf. 95 in 2011), which includes 17 complimentary subscriptions.

Membership of the New Zealand Ecological Society as at 14th November 2012 (data from August 2011 in brackets provided as a comparison)

Category	Paid	Arrears this year	Total
Full	328 (297)	119 (126)	447 (423)
Joint	(44)*	(5)	(49)
Unwaged	75 (85)	39 (72)	114 (157)
Overseas**	11 (11)	4 (8)	15 (19)
Honorary	11 (11)		11 (11)
Newsletter only	3 (2)	2 (1)	5(3)
Total	**414 (435)**	**164 (219)**	**(664)**

**Joint membership no longer offered.*
*** Includes waged and unwaged overseas subscriptions*
(NB: as a further comparison the membership total for past years is as follows: 2009 (615); 2010 (685))
Editors Note: The decline in membership numbers is probably due to members being removed if they in arrears for more than one year. In previous years, members in arrears for up to two years were still counted.

TREASURER'S REPORT 2011

Clayson Howell, Treasurer

Shown below are statements of financial performance and financial position for the New Zealand Ecological Society for the 12 month financial year ended 31 December 2011 (values in this report are GST exclusive).

The society has two trusts, (Kauri Fund for Ecological Science and Research, and the Nigel Barlow Trust). Accounts for these trusts are presented here with the general NZES accounts. All accounts are audited together by Cotton Kelly Audit and Assurance.

Note: While I believe these to provide an accurate reflection of the NZES finances, they have not yet been finally approved by the auditor.

Financial performance

The Society made a Profit of $12,310.57 for the 12 months ended 31 December 2011.

Notes

1. The profit from the organisers of the Dunedin conference.
2. Improved interest rates were achieved by changing the account types of the Savings, Barlow and Kauri funds in March 2011.
3. Donations to the Kauri fund are always welcomed.
4. The supporters of Tiritiri Matangi contribution as a journal sponsorship.
5. An accountant has been enlisted to help prepare accounts for auditor.
6. Council expenses were up from 2010, I have raised this with council and we will try and keep these down.
7. The website entry includes domain name and the Royal society hosting of the journal.

Financial position

The Council continues to be in a very strong position. The total equity at 31 December 2011 is now at $ 232,431.72.

The day to day accounts are with the ANZ (having rebranded from National Bank). We retain the Westpac account to process credit card payments.

Statement of Financial Performance
For the Twelve Months ended 31 December 2011

Income	**2011**	**2010**
Membership	31,218.68	33,852.28
Interest	7,754.44	2,855.46
Journal sponsorship	15,652.17	7,111.11
Journal subscriptions	9,891.19	7,695.66
Page charges	5,121.19	5,976.29
Conference	19,034.17	75,741.59
Sundry income	484.94	675.35
Donation to Kauri fund	463.48	425.25
Total	**89,620.26**	**134,332.99**
Expenditure		
Journal production	39,159.67	40,565.51
Newsletters	1,201.51	3,226.03
Secretariat	9,011.28	9,018.64
Subscriptions	1,401.27	731.91
Council expenses	4,914.39	2,043.47
Administration	1,176.24	2,170.05
Audit	1,500.00	1,000.00
Accountant	1,000.00	
Awards	9,200.00	12,095.00
Web site	749.95	32.95
Conference	7,695.38	23,041.91
Media work	300.00	
Website re-development		8,670.00
Total	**77,309.67**	**102,595.47**
Surplus/ (Deficit)	**12,310.57**	**31,737.52**

Statement of Movements in equity
As at 31 December 2011

	2011	2010
Equity at start of year	**220,121.15**	**187,125.61**
Net surplus/(deficit) for the year	**12,310.57**	**32,995.54**
Equity at end of year	**232,431.72**	**220,121.15**

Statement of Financial Position
As at 31 December 2011

	2011		2010	
Current Assets				
NZES Cheque acc	11,559.29		19,861.71	
NZES Savings	76,061.03		73,125.57	
Westpac Cheque	2,135.97		11,778.95	
Barlow Fund	61,519.64		57,326.63	
Kauri Fund	90,886.35		64,978.75	
Journal Stock	150.00		150.00	
Accounts receivable				
Total Assets		**242,162.28**		**227,071.61**
Current Liabilities				
GST	3,074.65		2,339.54	
Accounts Payable	6,655.91		4,610.92	
Total Liabilities		**9,730.56**		**6,950.46**
TOTAL Equity		**232,431.72**		**220,121.15**

JOURNAL EDITOR'S REPORT

Jo Hoare, Scientific Editor

2012 papers

Volume 36 of the journal contained three issues (two regular issues, containing 11 and 18 papers respectively, and a special issue). The special issue (volume 36, issue 3) on advances in detecting and monitoring birds was guest edited by Dan Tompkins and contains 17 articles and an overview. Two media releases relating to individual articles were organised to increase the profile of the journal; both were picked up by the media.

2013 papers

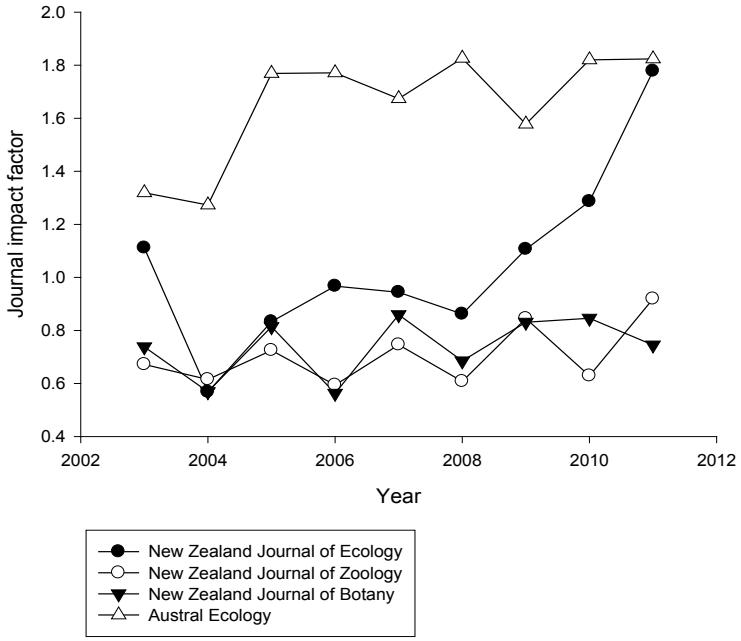
The first issue of volume 37 is a regular issue that contains 18 papers and an obituary; 16 papers are already available online.

Submissions

Submissions are holding steady at ca. 55 manuscripts per year. In 2011, 54 manuscripts were submitted, and 46 have been received to date in 2012.

Journal impact factor

Journal impact factors for 2011 revealed a good year for New Zealand Journal of Ecology, with the impact factor rising to 1.778. The rise in impact factor is undoubtedly due to getting the publication of the issues closer to the start of the calendar year (K.C. Burns' mission as scientific editor) and the effect of the 'Feathers to Fur' special issue. Comparisons with some other journals are below (graph courtesy of Peter Bellingham).



Journal impact factors over the last nine years show a marked increase in the NZ Journal of Ecology impact factor since 2008, while other journals have remained steady (Figure: Peter Bellingham).

Editorial board changes

K.C. Burns resigned as Scientific Editor, and Iggy Menzies stepped down as Managing Editor, in February 2012 and I stepped into these roles. Wayne Linklater resigned from the editorial board and Colin O'Donnell and Kelly Hare joined the board.

I wish to thank the editorial board, technical editors, reviewers and authors for their energy and commitment to producing a high quality journal for New Zealand ecologists.

NZES AGM

Elections were held for President, Vice President, Secretary, and Treasurer. All current office holders were re-elected unopposed. Consequently, there was no change in Council.

Members voted in favour of changing the Society's rules, as outlined in September's issue of the Newsletter. There were three aspects to the rule changes: Joint membership with Ecological Society of Australia, Council continuity, and charitable trust status.

The NZES Council has been exploring the option for NZES members to join the Ecological Society of Australia at a concessionary rate. This reciprocal arrangement will allow electronic access to all respective publications. The Society's rules have been changed to create a new membership class called "Tasman Linkage" to incorporate this reciprocal agreement.

The rules were also changed to enable flexibility in the length of the term for council members, primarily to avoid the situation where council members retire all at once, or resign after a single year of service. This will ensure some carry-over of experience on Council each year.

The remaining changes passed will enable the NZ Ecological Society to be registered as a charitable organisation. With charitable status, donations to the Society will be eligible for tax deductions, and our income (interest on deposits) will not be taxed.

POSTGRAD PROFILES

ANNA CARTER, VICTORIA UNIVERSITY OF WELLINGTON

Anna is undertaking a PhD under the supervision of Drs. Nicola Nelson and Stephen Hartley.

I came to Wellington, New Zealand from the U.S. in 2010 with a research background in marine ecology, having most recently completed work on population distributions of planktonic snails. I am equally at home spending my days tossing collection nets over the side of a research ship or nights searching through the bush for the gleaming white spines of nesting reptiles.

Tuatara basking outside her burrow on Takapourewa (Stephens Island), Cook Strait.

I'm using biophysical models to study how female physiology and reproductive behaviour interact with the environment to influence offspring sex ratios in tuatara (*Sphenodon punctatus*), an endemic NZ species with temperature-dependent sex determination. Tuatara are long-lived reptiles that reproduce slowly, so determining how populations are affected by either short-scale environmental variation or long-term climate change is particularly challenging. Because female behaviour (nest site choice, for example) influences the incubation temperature of a nest, I can predict variations in offspring sex ratios across populations using observations of behavioural change. Combining behavioural studies in the field with high-resolution geospatial and climate data allows me to ask research questions within an ecologically relevant timeframe that are difficult to answer within the constraints of traditional fieldwork. On a practical level, I am asking how physiology and behavioural ecology can directly inform conservation efforts, particularly through predicting how population sex ratios change under different climate scenarios.

JESSICA LYNNE, MASSEY UNIVERSITY

I am a 23 year-old Massey University student currently finishing my MSc, after which I hope to complete a PhD investigating heavy metal waste mitigation from geothermal power plants and mining activities.

*Jessica Lynne in the lab at Massey University, investigating whether snapper (*Pagrus auratus*) consumption in New Zealand is a double-edged sword.*

Fish constitute an excellent source of protein, lipids, vitamins and minerals necessary for human neurological, cognitive, visual and behavioural development; however fish may also contain high levels of neurotoxic heavy metals. Metals such as lead (Pb) and methylmercury (MeHg) are of central concern, as no placental barrier exists to limit the transfer of these metals from the mother's blood supply to the developing foetus, where they may exert memory and attention deficits, spatial perception impairments, seizures, paralysis, neurotoxicity, and central nervous system damage on the developing infant.

The aim of my thesis is thus to quantitatively evaluate the protein, total lipid, moisture, ash, lead (Pb), and mercury (MeHg and THg) content within the edible muscle tissue of New Zealand snapper (Pagrus auratus) in order to perform a balanced analysis of the nutritional risks and benefits to human health associated with snapper consumption in New Zealand.

To achieve this, 10 snapper were collected from 5 locations in New Zealand during the 2012 winter season, and 10 snapper will be collected from these 5 locations during the 2012 summer season. These locations include: 1) The West coast of the South Island; 2) Narrow Neck Beach adjacent to Auckland City; 3) The Eastern coast of

Waiheke Island; 4) Whakatane Harbour; 5) The Whangarei Harbour adjacent to the Marsden Point oil refinery.

The muscle tissues of these snapper will then be analysed for total lipid, protein, ash, moisture, lead, methylmercury, and total mercury, and the geometric framework for nutrition used to perform a balanced analysis of the nutritional risks and benefits to human health associated with the consumption of snapper in New Zealand. The concentration of lead and mercury will also be correlated with fish age and catch location, to assess whether older fish accumulate higher levels of heavy metals, and whether proximity to anthropogenic settlements and geothermally-active regions contribute to heavy metal bioaccumulation within New Zealand snapper.

ELIZABETH OVERDYCK, WAIKATO UNIVERSITY

I am currently writing up my PhD with Prof Bruce Clarkson as my chief supervisor. I am interested in vegetation dynamics and seed ecology with a background in forest ecology working for DOC prior to my graduate studies.

Elizabeth Overdyck collecting a seed rain tray for germination and seedling identification from an urban forest patch. A bucket trap that also collects seed rain in a cloth bag for identification is visible behind. Photo L. Baxter.

My PhD investigates vegetation regeneration processes, particularly seed dispersal, within an urban landscape in relation to the long-term sustainability of restoration plantings. I am studying the composition of soil seed banks, seed rain and vegetation in forest patches within Hamilton City and also in nearby intact native forest in order to assess native seed dispersal and competition from exotic plant species (Overdyck and Clarkson 2012). My research aims to identify any native species which may be negatively affected by dispersal limitation, i.e. those that do not form soil seed banks or have effective seed dispersal, and investigate how such limitations can be overcome in restoration practice. I am currently looking at the influence of characters such as forest patch size, adjacent land use and proximity of native seed source on species composition. Additionally, an experimental trial has been undertaken to investigate broadcast seeding in restoration plantings as an alternative to the ongoing enrichment planting of late successional species which may be dispersal limited. Some novel pre-sowing seed treatments were applied to three large-seeded tree species and rates of seed predation, germination and seedling survival measured (Overdyck et al. In press).

This research aims to contribute to more effective and successful reconstruction and restoration of lowland forest habitat by identifying limitations on regeneration for key forest species in an urban environment and producing guidelines for restoration practitioners.

References

Overdyck E. and B.D. Clarkson 2012 Seed rain and soil seed banks limit native regeneration within urban forest restoration plantings in Hamilton City, New Zealand. New Zealand Journal of Ecology 36(2): 177–190.

Overdyck E., B.D. Clarkson, D.C. Laughlin, C.E.C. Gemmill. In press. Testing broadcast seeding methods to restore urban forests in the presence of seed predators. Restoration Ecology.

ECOTONES

Bruce Burns, University of Auckland

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

Smarter bait distribution shrinks quantity of toxin use needed for pest control

Toxins for small mammal pests of native forests are regularly deployed using aerial distribution of baits. Typical sowing rates (2-3 kg/ha for 1080), however, often far exceed the minimum amount needed to kill all pests present, leading Nugent et al. (2012) to ask whether smarter distribution of baits could reduce the amount of toxins entering the environment while still maintaining effectiveness. They tested whether aggregating baits in strips of clusters with large intervening areas free of baits would achieve similar pest population reductions as conventional methods. They also tested whether pre-feed was an advantage in these different situations. From trials in Whirinaki forest they found that the bait aggregations were as effective as complete bait coverage in killing pests as long as the gaps between baited areas were are still smaller than the smallest home range diameters of the pests. The continued use of prefeed was supported. These findings suggest substantial reductions in toxin use are possible in pest control operations without compromising efficiency. Such reductions and gaps between bait occurrences will also undoubtedly reduce the exposure of non-target organisms to toxins.

Nugent G, Warburton B, Thomson C, Cross ML, Coleman MC 2012. Bait aggregation to reduce cost and toxin use in aerial 1080 baiting of small mammal pests in New Zealand. Pest Management Science 68: 1374-1379 DOI: 10.1002/ps.3315

Using internet trading sites to track pest-pet introductions

The internet is increasingly being used to gather data on previously cryptic processes. Kikillus et al (2012) have recently published on a novel study using data gathered on the internet to track trade in a pest species which is also a pet, and that gains entry to wild areas through 'pet-release'. Over two years, they tracked sales and 'releases' (reports of lost or found turtles) of red-eared slider turtles in New Zealand. Over this time, at least 1588 red-eared sliders were traded on the internet, with most sold in the Auckland region which is climatically suitable for this species to survive in the wild. Over 80 reports of lost or found turtles (again mostly from the Auckland region) also indicate that this species is regularly being seeded into the environment. This study provides an excellent example of an innovative use of the internet to collect useful data on an invasive process.

Kikillus KH, Hare KM, Hartley S 2012. Online trading tools as a method of estimating propagule pressure via the pet-release pathway. Biological Invasions 14: 2657-2664. DOI: 10.1007/s10530-012-0262-5

Abrupt *Nothofagus* tree lines unresponsive to climate change

The elevations of tree lines in montane environments are currently viewed as potential indicators of climate warming. This is because tree line position is thought to be related to the extent of low temperatures during the growing season. Nothofagus tree lines in New Zealand appear unusual, however, as they are abrupt and there is little evidence of change resulting from recent measured climate warming. Harsch et al. (2012) have recently published a study looking at changes in Nothofagus treelines at five sites in New Zealand to examine how they have performed over a recent 15 year time period. The study remeasured a set of long-term transects originally established by Peter Wardle who tragically died in 2008, and represents a continuation of his huge legacy to New Zealand ecology. Although some local recruitment of Nothofagus seedlings did occur over this period above the existing tree lines, >90% of these were within 10 m of the tree line edge. This suggests the existence of a slight upward shift, but, nevertheless, confirmed the unresponsive nature of these tree lines. Harsch et al. (2012) concluded that movement of the Nothofagus tree line was limited by a lack of appropriate microsites for seedling establishment.

Harsch MA, Buxton R, Duncan RP, Hulme PE, Wardle P, Wilmshurst J 2012. Causes of tree line stability: stem growth, recruitment and mortality rates over 15 years at New Zealand *Nothofagus* tree lines. Journal of Biogeography 39: 2061-2071. DOI: 10.1111/j.1365-2699.2012.02763.x

Beak and feather disease still rare in native parrots but a real threat

Psittacine beak and feather disease (BFDV) is a potentially fatal viral disease affecting parrots, first described in Australia. It poses a huge threat to already endangered and endemic New Zealand parrot species. Until 2008, this disease was only known in New Zealand from captive exotic parrots and wild populations of introduced eastern rosella and sulphur-crested cockatoo. In that year, however, BFDV was detected from red-crowned parakeet on Little Barrier Island/Hauturu. Massaro et al. (2012) report on an extensive screening of wild and captive populations of seven New Zealand native parrot species (including kakapo and Malherbe's parakeet) and eastern rosella for BFDV after this discovery to determine the distribution of the disease and its genetic diversity in New Zealand. From 753 birds screened, BFDV was

only found in red-crowned parakeets from Little Barrier Island, eastern rosellas from Auckland, and yellow-crowned parakeets from the Eglinton region. This latter discovery is the first time that this disease has been found on the South Island. Genetically the red-crowned parakeets and the eastern rosellas shared the same strain of the virus (BFDV-A), whereas the strain found with the yellow-crowned parakeets was different (BFDV-O). Although confirming that this disease is still comparatively rare in New Zealand's native parrot populations, this study has highlighted the need for vigilance to prevent spread of BFDV particularly during translocations.

Massaro M, Ortiz-Catedral L, Julian L, Galbraith JA, Kurenbach B, Kearvell J, Kemp J, van Hal J, Elkington S, Taylor G, Greene T, van de Wetering J, van de Wetering M, Pryde M, Dilks P, Heber S, Steeves TE, Walters M, Shaw S, Potter J, Farrant M, Brunton DH, Hauber M, Jackson B, Bell P, Moorhouse R, McInnes K, Varsani A 2012. Molecular characterisation of beak and feather disease virus (BFDV) in New Zealand and its implications for managing an infectious disease. Archives of Virology 157: 1651-1663. DOI: 10.1007/s00705-012-1336-5

Bacterial symbiosis drives nutrition in native scale insects

In New Zealand, scale insects have profound influences over several ecosystems from their production of honeydew. These include honeydew produced in Nothofagus forests by scale insects of the genus Ultracoelostoma, and in forests of the North Island by the kanuka giant scale, Coelostomidia wairoensis. Scale insects feed on phloem sap which is rich in carbohydrates but low in several critical amino acids. In other groups, such nutritional constraints are overcome by these insects harbouring symbiotic bacteria in their guts. In a recent discovery, Dhami et al. (2012) have identified such symbiotic bacteria living in the guts of Coelostomidia wairoensis and located them in large, paired, multilobate organs in the abdominal region of the insect. Three different bacterial symbionts were present in these organs, although one, a previously undescribed member of the phylum Bacteroidetes, is probably the primary symbiont, and was present in all populations spanning >100km in range. The presence of these bacteria are probably crucial to survival of these scale insects and therefore are equally important to the ecological processes they support.

Dhami MK, Turner AP, Deines P, Beggs JR, Taylor MW 2012. Ultrastructural and molecular characterization of a bacterial symbiosis in the ecologically important scale insect family Coelostomidiidae. FEMS Microbiology Ecology 81: 537-546. DOI: 10.1111/j.1574-6941.2012.01378.x

OTHER RECENT PUBLICATIONS ON NEW ZEALAND ECOLOGY

Barbaro L, Brockerhoff EG, Giffard B, van Halder I 2012. Edge and area effects on avian assemblages and insectivory in fragmented native forests. Landscape Ecology 27: 1451-1463 DOI: 10.1007/s10980-012-9800-x

Baylis SM, Cassey P, Hauber ME 2012. Capsaicin as a deterrent against introduced mammalian nest predators. Wilson Journal of Ornithology 124: 518-524.

Brown S, Warburton B, Fisher P, Bunt CR 2012. Optimising the palatability and longevity of stoat baits. New Zealand Journal of Zoology 39: 229-243 DOI: 10.1080/03014223.2011.625957

Didham RK, Ewers RM 2012. Predicting the impacts of edge effects in fragmented habitats: Laurance and Yensen's core area model revisited. Biological Conservation 155: 104-110 DOI: 10.1016/j.biocon.2012.06.019

Duggan IC, Robinson KV, Burns CW, Banks JC, Hogg ID 2012. Identifying invertebrate invasions using morphological and molecular analyses: North American *Daphnia* '*pulex*' in New Zealand fresh waters. Aquatic Invasions 7: 585-590 DOI: 10.3391/ai.2012.7.4.015

Etherington TR, Perry GLW 2012. Using point process intensity to establish the spatio-temporal grain of continuous landscape tessellations and graphs. Landscape Ecology 27: 1083-1090 DOI: 10.1007/s10980-012-9789-1

Ewen JG, Bensch S, Blackburn TM, Bonneaud C, Brown R, Cassey P, Clarke RH, Perez-Tris J 2012. Establishment of exotic parasites: the origins and characteristics of an avian malaria community in an isolated island avifauna. Ecology Letters 15: 1112-1119 DOI: 10.1111/j.1461-0248.2012.01833.x

Jones C, Barron M, Warburton B, Coleman M, Lyver PO, Nugent G 2012. Serving two masters: Reconciling economic and biodiversity outcomes of brushtail possum (*Trichosurus vulpecula*) fur harvest in an indigenous New Zealand forest. Biological Conservation 153: 143-152 DOI: 10.1016/j.biocon.2012.04.016

Larsen H, Burns KC 2012. Seed dispersal effectiveness increases with body size in New Zealand alpine scree weta (*Deinacrida connectens*). Austral Ecology 37: 800-806. DOI: 10.1111/j.1442-9993.2011.02340.x

Leleu K, Remy-Zephir B, Grace R, Costello MJ 2012. Mapping habitats in a marine reserve showed how a 30-year trophic cascade altered ecosystem structure. Biological Conservation 155: 193-201 DOI: 10.1016/j.biocon.2012.05.009

Koele N, Dickie IA, Oleksyn J, Richardson SJ, Reich PB 2012. No globally consistent effect of ectomycorrhizal status on foliar traits. New Phytologist 196: 845-852 DOI: 10.1111/j.1469-8137.2012.04297.x

Mason NWH, Ausseil AGE, Dymond JR, Overton JM, Price R, Carswell FE 2012. Will use of non-biodiversity objectives to select areas for ecological restoration always compromise biodiversity gains? Biological Conservation 155: 157-168 DOI: 10.1016/j.biocon.2012.05.019

Mark AF 2012. Recent progress with the conservation and protection of temperate indigenous grasslands in New Zealand. Parks 18: 1-11.

Monks A, Cieraad E, Burrows L, Walker S 2012. Higher relative performance at low soil nitrogen and moisture predicts field distribution of nitrogen-fixing plants. Plant and Soil 359: 363-374 DOI: 10.1007/s11104-012-1170-2

Paynter Q, Forgie SA, Winks CJ, Peterson PG, Ward DF, Nicholson L, Van Zoelen R 2012. Biotic resistance: Facilitation between invasive Homoptera and invasive ants limits the establishment of an introduced weed biocontrol agent in New Zealand. Biological Control 63: 188-194 DOI: 10.1016/j.biocontrol.2012.07.010

Paynter Q, Overton JM, Hill RL, Bellgard SE, Dawson MI 2012. Plant traits predict the success of weed biocontrol. Journal of Applied Ecology 49: 1140-1148 DOI: 10.1111/j.1365-2664.2012.02178.x

Perry GLW, Wilmshurst JM, McGlone MS, Napier A 2012. Reconstructing spatial vulnerability to forest loss by fire in pre-historic New Zealand. Global Ecology and Biogeography 21: 1029-1041 DOI: 10.1111/j.1466-8238.2011.00745.x

Rawlence NJ, Metcalf JL, Wood JR, Worthy TH, Austin JJ, Cooper A 2012. The effect of climate and environmental change on the megafaunal moa of New Zealand in the absence of humans. Quaternary Science Reviews 50: 141-153 DOI: 10.1016/j.quascirev.2012.07.004

Root S, O'Reilly CM 2012. Didymo control: increasing the effectiveness of decontamination strategies and reducing spread. Fisheries 37: 440-448 DOI: 10.1080/03632415.2012.722873

Scrimgeour J, Beath A, Swanney M 2012. Cat predation of short-tailed bats (*Mystacina tuberculata rhyocobia*) in Rangataua Forest, Mount Ruapehu, Central North Island, New Zealand. New Zealand Journal of Zoology 39: 257-260 DOI: 10.1080/03014223.2011.649770

Shaw SD, Bishop PJ, Harvey C, Berger L, Skerratt LF, Callon K, Watson M, Potter J, Jakob-Hoff R, Goold M, Kunzmann N, West P, Speare R 2012. Fluorosis as a probable factor in metabolic bone disease in captive New Zealand native frogs (*Leiopelma* species). Journal of Zoo and Wildlife Medicine 43: 549-565.

Shoener ER, Alley MR, Howe L, Charleston T, Castro I 2012. Helminths in endemic, native and introduced passerines in New Zealand. New Zealand Journal of Zoology 39: 245-256 DOI: 10.1080/03014223.2012.676992

St John MG, Bellingham PJ, Walker LR, Orwin KH, Bonner KI, Dickie IA, Morse CW, Yeates GW, Wardle DA 2012. Loss of a dominant nitrogen-fixing shrub in primary succession: consequences for plant and below-ground communities. Journal of Ecology 100: 1074-1084 DOI: 10.1111/j.1365-2745.2012.02000.x

Stanley MC, Ward DF 2012. Impacts of Argentine ants on invertebrate communities with below-ground consequences. Biodiversity and Conservation 21: 2653-2669 DOI: 10.1007/s10531-012-0324-0

Turner BL, Condron LM, Wells A, Andersen KM 2012. Soil nutrient dynamics during podzol development under lowland temperate rain forest in New Zealand. Catena 97: 50-62 DOI: 10.1016/j.catena.2012.05.007

Turner BL, Wells A, Andersen KM, Condron LM 2012. Patterns of tree community composition along a coastal dune chronosequence in lowland temperate rain forest in New Zealand. Plant Ecology 213: 1525-1541 DOI: 10.1007/s11258-012-0108-3

van Manen SM, Reeves R 2012. An assessment of changes in *Kunzea ericoides* var. *microflora* and other hydrothermal vegetation at the Wairakei-Tauhara Geothermal Field, New Zealand. Environmental Management 50: 766-786 DOI: 10.1007/s00267-012-9899-1

Van Winkel D, Wi J 2012. Evidence of lizard predation by New Zealand kingfishers (*Todiramphus sanctus vagans*) and potential implications for threatened species translocations. New Zealand Journal of Zoology 39: 201-208 DOI: 10.1080/03014223.2011.638309

Villalba R, Lara A, Masiokas MH, Urrutia R, Luckman BH, Marshall GJ, Mundo IA, Christie DA, Cook ER, Neukom R, Allen K, Fenwick P, Boninsegna JA, Srur AM, Morales MS, Araneo D, Palmer JG, Cuq E, Aravena JC, Holz A, LeQuesne C 2012. Unusual Southern Hemisphere tree growth patterns induced by changes in the Southern Annular Mode. Nature GeoScience 5: 793-798 DOI: 10.1038/NGEO1613

Waite EM, Closs G, Van Heezik Y, Berry C, Dickinson K 2012. Arboreal arthropod sampling methods for urban trees. Journal of Insect Conservation 16: 931-939 DOI: 10.1007/s10841-012-9480-5

Watts C, Empson R, Thornburrow D, Rohan M 2012. Movements, behaviour and survival of adult Cook Strait giant weta (*Deinacrida rugosa*; Anostostomatidae: Orthoptera) immediately after translocation as revealed by radiotracking. Journal of Insect Conservation 16: 763-776 DOI: 10.1007/s10841-012-9461-8

Watts C, Rohan M, Thornburrow D 2012. Beetle community responses to grey willow (*Salix cinerea*) invasion within three New Zealand wetlands. New Zealand Journal of Zoology 39: 209-227 DOI: 10.1080/03014223.2011.645838

Wilding TK, Brown E, Collier KJ 2012. Identifying dissolved oxygen variability and stress in tidal freshwater streams in northern New Zealand. Environmental Monitoring and Assessment 184: 6045-6060 DOI: 10.1007/s10661-011-2402-2

Wilson JB 2012. Species presence/absence sometimes represents a plant community as well as species abundances do, or better. Journal of Vegetation Science 23: 1013-1023 DOI: 10.1111/j.1654-1103.2012.01430.x

Wotton DM, Kelly D 2012. Do larger frugivores move seeds further? Body size, seed dispersal distance, and a case study of a large sedentary pigeon. Journal of Biogeography 39: 1973-1983 DOI: 10.1111/jbi.12000

Wright DM, Tanentzap AJ, Flores O, Husheer SW, Duncan RP, Wiser SK, Coomes DA 2012. Impacts of culling and exclusion of browsers on vegetation recovery across New Zealand forests. Biological Conservation 153: 64-71 DOI: 10.1016/j.biocon.2012.04.033

THE NOTICEBOARD

DUNE RESTORATION TRUST OF NEW ZEALAND

5–7 March 2013

The 2013 Dune Restoration Trust (Dunes Trust) conference will be held in Nelson from 5–7 March with an optional Golden Bay/Farewell Spit field trip on 8th and 9th. An excellent line up of speakers will set the scene and describe the nature of dune and coastal processes in the Nelson Region but will also cover such diverse topics as land run-off and inshore fisheries; risk assessment and sea level rise; maintaining Matauranga Maori while restoring fragile ecosystems; earthquake-affected Canterbury dune systems; as well as annual favourites such as dealing with coastal weeds and the Regional Round-up Session. The field trips include a walk along Tahuna Beach on the first day, followed by a full day trip across to Motueka, Tapu Bay, Kaiteriteri and Marahau on Wednesday and to Rabbit Island/Waimea Inlet on Thursday. We have an optional post-conference two-day field trip to Golden Bay. For further information please visit the website http://www.dunestrust.org.nz/news-and-events/conference-2013/

Simon Moore

CHARLES FLEMING FUND — CALL FOR APPLICATIONS

Closing date: 31 March 2013

The Royal Society of NZ is now calling for applications for the following awards:

- Charles Fleming Fund — Publishing Award
- Charles Fleming Fund — Senior Scientist Award

Information on these awards, and application forms are available on the Society's website: http://www.royalsociety.org.nz/programmes/funds/fleming/

SPECIAL ISSUE OF THE NEW ZEALAND ENTOMOLOGIST

The latest issue of the New Zealand Entomologist was devoted to the conservation status of terrestrial invertebrates in NZ. Groups covered include Araneae, Coleoptera, Diptera, Gastropoda, Hemiptera, Hymenoptera, Lepidoptera, Nematoda, Orthoptera and some smaller less known groups. To quote from the introductory article, 'the publications in this issue have two primary aims. First, to assist in the recovery of threatened species and, second, to prevent their extinction by identifying Threatened and At Risk taxa. The main purpose is to warn conservation managers so they can research the causes of decline if necessary and organise appropriate conservation management.'

I trust many members will find it interesting and useful reading.

You can access the journal at: http://www.tandfonline.com/toc/tnze20/current

Ronny Groenteman, Landcare Research

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".

VII SOUTHERN CONNECTION CONGRESS 2013

21–25 January 2013, University of Otago, Dunedin

Southern lands and southern oceans: life on the edge?
The Southern Connection Congress programme is now available online at http://www.otago.ac.nz/V11-southern-connection/

We are delighted to have 10 plenary speakers, 20+ symposia and 300+ contributed oral and poster presentations examining a range of topics related to understanding and sustaining our southern lands. Symposia comprise:

- Alpine ecology in the Southern Hemisphere
- Amber: paleontological potential for the Southern Hemisphere
- Biogeographic relationships of Cenozoic terrestrial vertebrates of Australasia
- Cenozoic island biogeography: integrating geology, paleontology and phylogeny
- Chile/New Zealand: The continental scale experiment
- Ecological restoration: across the land and sea
- Ecological thresholds, triggers, and traps in Southern Hemisphere forest history
- Learning more about wilding tree management
- Messengers of change
- Modern and paleoclimate perspectives on the Southern Hemisphere westerly wind field
- New Caledonia: understanding an enigmatic biota
- New insights into the ecological consequences of late Quaternary Southern Hemisphere extinctions
- Northern Connections: the success and failure of biological links with the Northern Hemisphere
- Organismal responses to a changing climate in the Southern Hemisphere
- Origins, functioning and futures of Subantarctic Ecosystems
- Paleoclimate of the Southern Hemisphere viewed from lakes: linking records spanning tropical Queensland to southern Patagonia
- Pollination systems-Diversity and disturbance in the Southern Lands
- Predictions from climate change: benefits and losses for southern reptiles and amphibians
- Southern biological connectivity, the effect of the WWD
- Southern radiations: processes driving diversification
- Temperate indigenous grasslands: their conservation, values, resilience and sustainable management
- Wildfire regime shifts in temperate forest ecosystems

While we cannot accept any further presentations, registration remains open for those who wish to attend.

Bill Lee, Co-convener

UPCOMING MEETINGS

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

World Wetlands Day
2 February 2013
See www.wetlandtrust.org.nz for details and let us know if you are planning an event.

Dune Restoration Trust Conference
5–7 March 2013
Nelson
www.dunestrust.org.nz/news-and-events/conference-2013/

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

3rd Annual Environmental Law & Regulation Conference
16–17 April 2013
Amora Hotel, Wellington
Planning for natural resource protection and development opportunities

6th International Symposium on the Biology and Ecology of Galling Arthropods and related Endophytes
4–8 August 2013
O'Reillys Rainforest Retreat, Queensland, Australia
http://6isbegia.org/

INTECOL 11 Congress
18–23 August 2013
London, UK
Ecology—Into the Next 100 Years
www.intecol2013.org/

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

NZES Conference 2013
November 2013
Auckland

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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 April 2013 issue of the NZES Newsletter is due by Friday 1 March 2013.

MEMBERSHIP

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

Types of Membership and Subscription Rates (2011)

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

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

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

School.....$12 per annum

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

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

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

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

For more details on membership please write to:

NZ Ecological Society
PO Box 5075
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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