

NEW ZEALAND
ECOLOGICAL
SOCIETY

Newsletter

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'Metamorphosis' by Kate McAlpine. Made from New Zealand natives: rangiora leaves, red kakabeak flowers (from household garden), and cicada wings (collected from the ground after a bird feeding frenzy). See more at <https://plantart.nz/>

From the Editor

Kia ora koutou,

Welcome to the 180th newsletter of the NZ Ecological Society! I hope you all had a good winter.

At the end of this year, I will be stepping down as the NZES newsletter editor. I have genuinely enjoyed this role in the Society and getting to know you through the newsletter. If you are keen to take over this role, please get in touch (newsletter@newzealandecology.org)! More information about this is later on in this newsletter too.

I hope you all are well, and enjoy this newsletter and the longer spring days!

Ngā mihi,
Rowan

News from NZES Council

Kia ora koutou

The NZES Council met via video conference in early July and again in late August. Council membership and roles have remained stable over this period, though we are still looking for someone to help out with social media. We are also looking for a replacement Newsletter Editor, as our current Editor Rowan Sprague will be stepping down at the end of this year. If there are any keen beans out there, please get in touch.

Tim Curran and others have been busy with a number of submissions over the course of the year and, with the volume and pace of environmental statutory reform, this is likely to continue. Recently we have lodged submissions on the Wildlife Act, exposure draft for the National Policy Statement – Indigenous Biodiversity, and a regional council initiative on improving outcomes from biodiversity offsets and compensation. Many thanks to those who have helped us with this. Any offers of assistance in writing submissions are welcome – keep your eyes peeled for messages from the Council where there are opportunities to contribute.

As this year's conference in Dunedin draws closer the Council is conscious of working with the wonderful Conference Organising Committee in Dunedin to ensure that it will be a safe, enjoyable and successful event. Stay tuned for some messaging about conference protocols, designed to ensure the safety of all our members and particularly those that are vulnerable to the ongoing impacts of COVID. The weight of scientific opinion would tell us that the pandemic is far from over and so we need to ensure that we have appropriate steps in place to ensure a happy and safe place for all.

We're also conscious that an in-person conference creates the biggest carbon footprint of any activities undertaken by the NZES. The organising committee are doing a great job to minimise the footprint on-site but it's still incumbent on individuals to look at their contribution. So, where possible, please car-pool or think of ways to minimise your emissions.

The move to open access licensing for the NZ Journal of Ecology has also occupied a fair bit of council time during our meetings and I'd like to thank Tom Etherington for all of the hard work he is putting in to ensure that we have the fairest, most cost-effective and accessible outcome for the NZ Journal of Ecology, staying true to the purpose of the society's objectives. That's all from me. Please stay safe, take care and on behalf

of the council, we are really looking forward to seeing you at the conference in Dunedin kicking off at the end of November.

Mā te wā

Simon Moore (Acting President)

NZES Awards

The New Zealand Ecological Society offers a number of awards each year to showcase and celebrate exceptional ecologists and research being undertaken in NZ. Nominations and applications are now open until **30 September 2022**.

<https://newzealandecology.org/awards-grants>

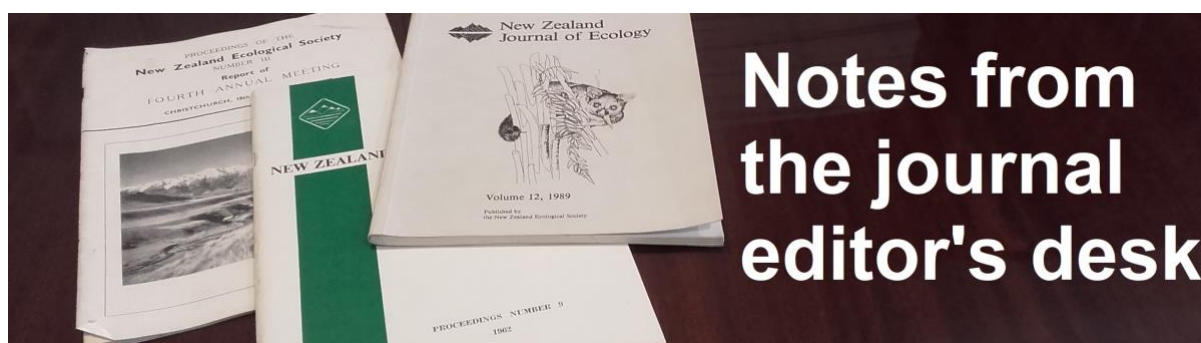
We are pleased to offer the following awards this year:

- [Te Tohu Taiao](#): Award for Ecological Excellence: to recognise individuals who have made an outstanding contribution to the study and application of ecological science. Recipients of the award are invited to give a plenary talk at the next annual NZ Ecological Society Conference and at the next annual conference of the Ecological Society of Australia, with travel and accommodation covered up to \$1000.
- [Ecology in Action](#): to recognise individuals who have made outstanding contributions to the application of ecological knowledge, including communication, education and transfer of ecological science at the grass roots in NZ or the Pacific. Recipients of the award are invited to give a plenary talk at the next annual NZ Ecological Society Conference, with travel and accommodation covered up to \$1000.
- [Outstanding publication on New Zealand Ecology](#): to recognise a publication made in the last three years that has made an outstanding contribution to our understanding and/or management of ecosystems (terrestrial, aquatic or marine) in New Zealand or its dependencies. Recipients receive \$250.
- [Best Publication by a New Researcher](#): best published paper of an ecological nature by a new researcher in the New Zealand Journal of Ecology. Recipients receive \$250.
- [Student Travel Grants](#): can be used towards the costs of conference and field trip fees, travel to and from the conference venue, accommodation, and meals during the course of the conference. Recipients receive up to \$400.
- [Honorary Life Membership](#): to recognise outstanding service to the New Zealand Ecological Society

Awards will be presented at this year's in-person conference in Ōtepoti Dunedin at the end of November: <https://newzealandecology.org/events/upcoming-meetings>

Please contact the awards convener with any questions (awards@newzealandecology.org). Please encourage people to apply and we look forward to your applications!

Notes from the Journal Editor's Desk



Moving to open access licencing

When applying for the role of Scientific Editor one of the aspects of the journal I hoped to investigate was our licencing model. The [journal's licence](#) currently requires transfer of copyright from authors to the society upon which the society then controls how the information is used for 3 years. As [Tennant et al. \(2019\)](#) discuss, this requirement of copyright transfer from author to publisher is a relic of the pre-digital era of scientific publishing where printing and distributing of hard copy scientific journals was beyond the abilities of a scientific organisation, and is no longer necessary given the advent of the internet and development of open access licences such as the [Creative Commons licences](#) that can increase the immediate use of published research while also protecting authors within a strong legal framework.

The society's stated objectives are to: (1) promote the study of ecology and the application of ecological knowledge in all its aspects; (2) publish the New Zealand Journal of Ecology; and (3) foster collaboration and communication amongst ecologists. I am pleased to be able to report that at the last council meeting that the society has decided to move to open access licencing to better meet those objectives around communication and application of ecological knowledge. While the journal has been freely available for some time, meaning that you do not need to pay to access articles, becoming open access will mean that scientists,

educators, and journalists will be able to immediately and more easily use the knowledge generated within the journal as it will no longer be restricted by the current copyright transfer agreement. I am hopeful that we can implement this change over the coming months.

I am conscious that for some scientists open access publishing is synonymous with an eye watering article processing charge (APC) that frequently cost into the many \$1000s. As [Tennant et al. \(2019\)](#) also discuss, there is no reason for open access publishing to cost that much, especially when journals are run as not-for-profit endeavours as with our society's journal. Therefore, I would like to reassure our members that the move to open access will not increase the cost for them to publish work in the journal.

I am currently taking a closer look at the current trends in open access licencing to try and ensure we adopt a system that best suits our members needs and our society's objectives, and I would welcome feedback from any of our members on this subject.

Any compliments and complaints about the journal are always welcome at nzjecol.editor@gmail.com be it on this topic or any other.

Tom Etherington
Scientific Editor, New Zealand Journal of Ecology

NZES Conference Notice



New Zealand Ecological Society 2022 Conference
28 November - 1 December 2022
University of Otago, Dunedin

The key dates for the upcoming NZES conference are as follows:

Call for Symposia	Call for Abstracts	Registration	Programme
Submissions open: <i>March 2022</i>	Call for abstracts: <i>June 2022</i>	Registration Opens: <i>June 2022</i>	Detailed programme: <i>Early October 2022</i>
Submissions close: <i>13 May 2022</i>	Abstract deadline: <i>4 September 2022</i> <i>16 September 2022</i>	Early bird deadline: <i>16 October 2022</i>	
Symposia advised: <i>Late May</i>	Presentations accepted: <i>30 September 2022</i>		

Earlybird registration closes soon on 16 October, so be sure to register if you are planning on coming.

Expressions of Interest Open for NZES Newsletter Editor

Rowan Sprague, our NZES newsletter editor, is stepping down from the role at the end of this year, and we are seeking Expressions of Interest to take over the role.

The NZES newsletter editor is responsible for compiling the quarterly newsletter. This role is ex-officio on the NZES Council and is a fantastic opportunity to get to know the Councillors and how the society operates. It is also an excellent way to get to know some of the society members and inform the society as well.

If you are interested in the role or have questions, please contact Rowan at newsletter@newzealandecology.org.

Illustrate Ecology

John Flux

Predation cycles: who eats who, and how?



1 Garden orbweb (*Eriophora pustulosa*) spiders eat most things caught, including spiders.

2 Orbwebs and other spiders are often eaten by wasps, here *Vespula germanica*.

3 Wasps (and honey bees) are easily caught by a praying mantis (*Orthodera novaezelandiae*).

4 Praying mantis falls prey to a white porch spider (*Cryptachaea gigantipes*).

Wasps are the messiest eaters, discarding everything except the thorax, which is flown to its nest.

Orbwebs inject digestive fluid, suck their prey dry, and drop the empty exoskeleton. But this praying mantis ate everything, including feelers, legs, wings, the sting, and poison sac. It took exactly an hour, working from the head down – like eating an ice-cream cone.

Also, a note from John about how he took these photos: Trials of a photographer: 95 exposures on the mantis, and I was standing 30 cm away and daren't move, so kept getting cramp. People passing took snaps of me, not the mantis - they thought I was taking the flowers!

Notice about Certified Environmental Practitioners Scheme from EIANZ*

*** Note from NZES council:** This information on the EIANZ Certified Environmental Practitioner Scheme is presented as information to our membership. The New Zealand Ecological Society has not been involved with its development, and provides no endorsement of the scheme.



Apply Now for CEnvP Ecology Specialist Certification

The Certified Environmental Practitioner (CEnvP) Scheme offers a specialist certification in Ecology, which recognises the skills and experience developed throughout a career in Ecology and enhances marketability in a competitive sector.

The CEnvP Ecologist Specialist certification is open to suitably qualified environmental practitioners with at least ten years of experience, within the last fifteen years. The Ecology certification is a completely independent, rigorous and impartial process. Certification provides an external measure on the quality of the work, offering confidence to those who engage with Ecology services. By becoming certified, CEnvP Ecology specialists demonstrate to stakeholders, clients and the community their

work meets the highest standards of professionalism and ethical conduct.

For the purposes of certification, "Ecology practice" is "the scientific study of the interactions of living organisms with one another and with their nonliving environment of matter and energy. CEnvP Ecology specialist certification does not differentiate between 'types' of ecologist, however, applicants are expected to apply based on their specific skills and role within the ecological community, whilst meeting general requirements. As part of the wider CEnvP Scheme, Ecology specialist certification is overseen by an expert committee of Ecology professionals.

About The CEnvP Scheme

The CEnvP Scheme is the leading certifier of environmental and social practitioners across Australia and New Zealand, with over 1,000 certified practitioners today. The Scheme was established by the Environment Institute of Australia & New Zealand (EIANZ) Inc in 2004, to certify environmental practitioners rather than accredit academic institutions. The Scheme complies with ISO 17024, among key requirements are that certification is available to anyone who meets the specified criteria, not just those who belong to a particular institute or association; and that scheme governance demonstrates independence from other organisations.

The CEnvP Scheme offers a range of specialties that assesses the experience, skills and ethical conduct of environmental and social professionals working across the region and the globe. We are also seeking expressions of interest from NZ stakeholders for our ecology specialist environmental advisory committee (SEAC). To seek more information, apply for CEnvP – Ecology Specialist, or express interest in joining our SEAC, visit cenvp.org.

PhD Scholarship Opportunity at Lincoln University

Lincoln University is offering a PhD Scholarship opportunity, funded by a Rutherford Discovery Fellowship that seeks to understand how successive ecological disturbances such as changes in seabird populations, fragmentation and plant disease have impacted plant compositions and biogeochemical signatures, soil microbial community structure and function in kauri forest.

This PhD will contribute to the broader goal of this programme, which is to reconstruct the kauri soil ecosystems over time using metagenomics, isotopic tracers, and paeleoecology, including the integration of Māori forest knowledge to build a *whakapapa* [ancestry] of the soil. This

programme addresses two overarching questions: (1) how has the loss of significant seabird populations, forest fragmentation and emerging pathogens over time, affected critical soil ecosystem functions, and (2) what lessons can we learn to guide us in protection of iconic forests into the future? Building on a previous research programme into the landscape ecology of kauri dieback in Waipoua Forest, revealed that changes in soil microbial communities, linked to the presence of kauri dieback has impacted on key biogeochemical processes such as carbon storage.

Prerequisites and Application Process:

Applicants for this project are expected to have qualifications and experience in some or all of these areas: microbiology, molecular biology, isotope geochemistry and soil science. Working in remote areas, full drivers licence and having a good level of fitness will be necessary. Working with communities, especially Māori communities would be an advantage.

Applications should send evidence of qualifications and research experience, together with a Curriculum Vitae and contact details of two academic referees. Applications should be supported by a cover letter that states why the candidate is interested in this PhD Scholarship and how their qualifications and aspirations would map onto the proposed research.

The position is open to candidates with Honours and/or Masters Degrees in a relevant discipline.

Preferred candidates would then need to apply to study for a PhD at Lincoln University and meet the institutional criteria for entry prior to the scholarship being confirmed, including obtaining a visa where applicable.

To apply, please [email](#) applications to **Professor Amanda Black** before the closing date **30th September, 2022**. Shortlisted applicants will be interviewed by Zoom.

For more information, please see the [notice](#) for this PhD scholarship.

Notice about Tāne's Tree Trust Conference



Tāne's Tree Trust has partnered with Pure Advantage to produce a **two-day conference at Te Papa Tongarewa on 27-28 October 2022**.

The group's aim is to highlight the need for Aotearoa to complement its existing productive land uses by weaving more native forest back into our working lands. Research shows that this will result in a myriad of benefits, which include (but are not limited to) biodiversity enhancement, erosion control, water quality, carbon sequestration, adaptation to climate change, cultural values, and high-value timber and non-timber forest products.

There are roles for different species of trees and types of forest in Aotearoa – as part of wise, sustainable land use. However, the focus of this conference is on native trees and diverse forests.

We welcome you as someone with common interests in this subject, to support O Tātou Ngāhere: Regenerating our landscapes with native forests and, as appropriate, encourage you, your team and community to attend and participate.

You can get tickets and find out more about the exciting programme and line up of speakers here on the conference website - www.otatoungahereconference.org.nz.

Postgraduate Profile: Manaia Pearmain-Fenton

Manaia (Ngāti Awa) has recently recently started her MSc in Zoology at the University of Otago supervised by Jo Monks and Anne Schlesselmann, supported by Manaaki Whenua - Landcare Research.

An important determinant for the potential success of large-scale biodiversity monitoring is understanding where and when predator management will most benefit native forest birds. Manaaki Whenua is interested in investigating the most imperative interventions for protecting our native birds through the More Birds in the Bush project, a research program supported by the Ministry of Business, Innovation &

Employment Endeavour fund. As part of the project, Manaia is aiming to explore the factors that limit bird populations and where the management of predators will be most effective, using South Island robins/kakaruai as model species. Two populations around Dunedin will be studied: one at Silver Stream/Whakaehu near Mosgiel, and the other at Orokonui Ecosanctuary.

Her goal is to assess how kakaruai nesting success differs between levels of predator control as well as to evaluate the influence of food resources on this success, with the assumption that the combined effect of predation pressure and food limitation will lead to lower reproductive outcomes. Understanding if this is the case for kakaruai would allow us to ensure the control of pests is undertaken at sites with the highest resource availability.

This species is a useful indicator of 'general predator impacts' both in terms of possible predator effects on other forest bird species that are more difficult to monitor, and to quantify the impacts on non-target species of management actions to reduce predator populations. Overall, her aim is to strengthen decision-making regarding conservation practices for forest birds, so that increases in populations of these species can be achieved by applying predator control management at the right level and scale. Data from the 2022 breeding season will be used with the hopes of completing the research and publishing the findings by mid-2023.

Manaia.pearmain@postgrad.otago.ac.nz



Survey from Ministry for the Environment: Help shape Te Kete Āhuarangi me Te Taiao – the Environment and Climate Research Strategy

Te Kete Āhuarangi me Te Taiao - the Environment and Climate Research Strategy will identify and prioritise critical research and evidence needs. It brings together over 70 existing research strategies and plans. By providing greater direction to where research funding is allocated, the strategy will allow government to take a more strategic and coordinated approach to investing in environment and climate research. This in turn will help ensure MfE's decisions are grounded in science and evidence.

How you can help

MfE would like your help to prioritise the strategy's research outcomes. These are useful knowledge, tools and processes that enhance and protect our environment and climate.

MfE drew the research outcomes from existing strategies and plans and have organised them into six interdisciplinary themes.

Now MfE would like your input on which research outcomes will make the biggest difference for our country; its people and the environment.

The strategy is a pathfinder for the Ministry of Business, Innovation and Employment's (MBIE) Te Ara Paerangi Future Pathways programme. This is an opportunity for you to not only shape the strategy, but also to provide valuable learnings for Future Pathways.

MfE wants to hear from people who **produce or use** environmental and climate research in:

- iwi, hapū or Māori-led organisations
- universities and research organisations
- non-government organisations
- private enterprise or industry organisations
- local or central government agencies.

Please click [here](https://environment.govt.nz/facts-and-science/science-and-data/environment-and-climate-research-strategy/) to take the surveys, or visit MfE's website here: <https://environment.govt.nz/facts-and-science/science-and-data/environment-and-climate-research-strategy/> You can share your views until **7th of October 2022**.

Ecotones – New ecological research

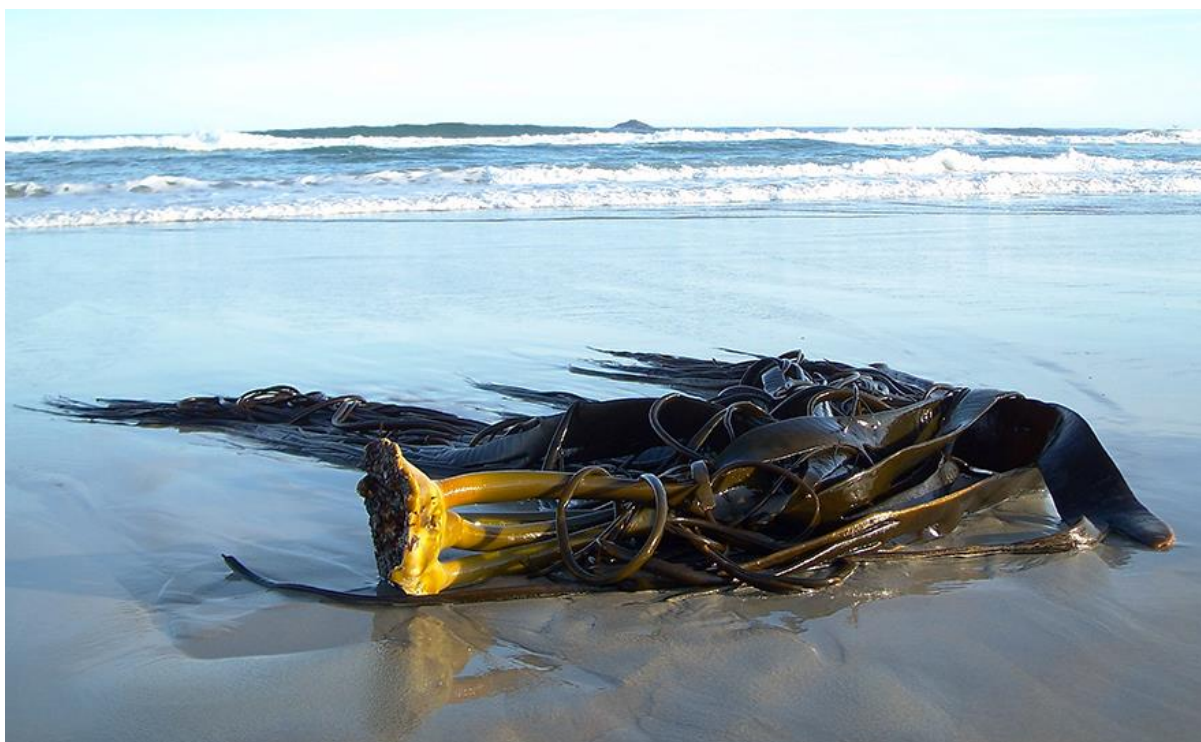
Bruce Burns, University of Auckland

A selection of recently published research on or relevant to New Zealand ecology (except that published in the New Zealand Journal of Ecology). The list of other publications on New Zealand ecology can be found towards the end of the newsletter.

1. **Kelp rafts connect the biota of southern hemisphere coasts**

One theory for biological connections amongst far-distant southern hemisphere landmasses has been that rafting events occur that transport live organisms from one to the other. The evidence for such rafting events and whether they are frequent enough to be important, however, has been fragmentary and incomplete. Directly seeking evidence of raft events led Fraser et al. (2022) to compare the genetics of bull kelp (*Durvillaea antarctica*) rafts against attached populations to establish their sources. They collected 37 rafts from Antarctica, New Zealand, Tasmania, and Macquarie Island, and another picked up at sea, and showed that each of these must have travelled thousands of kilometres from its origin to the collection site. As well as establishing that rafting was probable between such coasts, further modelling based on their results also showed that such events would be relatively frequent and rapid. Previous research has shown that such rafts can carry both marine and terrestrial (presumably coastal) species and the raft specimen picked up at sea described in this paper was found to be carrying a range of invertebrate passengers. This research has therefore established that bull kelp rafts are a powerful vector for trans-oceanic range expansion of coastal organisms in the southern hemisphere and may be increasingly important as organisms adjust to climate change.

Fraser CI, Dutoit L, Morrison AK, Pardo LM, Smith SDA, Pearman WS, Parvizi E, Waters J, Macaya EC 2022. Southern Hemisphere coasts are biologically connected by frequent, long-distance rafting events. *Current Biology* 32 (14): 3154-3160.e3.



Bull kelp (*Durvillaea antarctica*) raft. Image source: University of Otago.

2. Do we look at radiata pine through rose-tinted glasses?

Pinus radiata dominates the forestry industry in New Zealand, with 90% of commercial plantation forests of this species. These plantations now cover c. 1.6 million ha; approximately 6% of New Zealand's land area. Radiata pine has another side though, one that is more negative. Since it became naturalised around 1904, radiata pine has invaded a range of native ecosystems outside of these plantations. Despite these observations, however, convention has it that radiata pine is only a minor invader in New Zealand. Bellingham et al. (2022) have now contested this view, providing an assessment of the extent and types of ecosystems that radiata pine has invaded, and estimating the invasion potential of this species. They found that radiata pine has pervasively invaded a range of native ecosystems throughout New Zealand, mostly those of low stature but also some forests. More importantly, it is a key invader of several naturally uncommon ecosystems, e.g., geothermal areas and gumlands, and interferes with primary and secondary successions in which it has the potential to disrupt successional trajectories. The fundamental niche modelling by Bellingham et al. (2022) also shows that radiata pine could potentially invade 76% of New Zealand's land area, focussing on the warmer and drier regions of the country. Given this evidence of the current and potential importance of radiata pine as an invasive species, Bellingham et al. (2022) recommend greater attention be placed on

managing current invasions and preventing further expansion where this species is not wanted.

Bellingham PJ, Arnst EA, Clarkson BD, Etherington TR, Forester LJ, Shaw WB, Sprague R, Wiser SK, Peltzer DA 2022. The right tree in the right place? A major economic tree species poses major ecological threats. *Biological Invasions*, in press.



Pinus radiata in native ecosystems. Image source: Phil Bendle, Creative commons 3.0.

3. Eruptions of the Taupō supervolcano explain kiwi genetic structure

The most recent eruption of the Taupō supervolcano, c. 1690 years ago, has fascinated New Zealand ecologists for its impact on the current ecological patterns present on North Island. This recent eruption was massive but comparatively small relative to the incredible Oruanui eruption of Taupō that happened c. 24,000 years earlier. Both eruptions destroyed habitat over much of the central, southern, and eastern North Island, and must have initiated substantial biotic recolonization events. Bemmels et al. (2022) have recently asked whether the signature of these eruptions and their aftermaths could help explain the genetic

structure of brown kiwi. Four genetically and geographically distinct forms of brown kiwi (*Apteryx mantelli*) occur in North Island – the Northland, Coromandel, Western and Eastern. Bemmels et al. (2022) created a series of models to simulate genetic divergence of these groups incorporating variation in habitat suitability, the timing of potential connectivity among these types, the two major eruption events, and forest fragmentation by humans. These models were then compared against the genetic structure of the brown kiwi populations based on 57 individuals. Interestingly, the best supported model only included the effects of the volcanic eruptions and landscape structure. Bemmels et al. (2022) conclude that the eruptions drove a restructuring of the genetic structure of brown kiwi that is still clearly present today. These results, while interesting within themselves, also begs the question of what other genetics or species distributions were affected by these massive events?

Bemmels JB, Haddrath O, Colbourne RM, Robertson HA, Weir JT 2022.
Legacy of supervolcanic eruptions on population genetic structure of brown kiwi. *Current Biology* 32 (15): 3389-3397.e8.



Landsat image of Lake Taupo.

Image source: NASA World Wind image; public domain.

4. Cats may be key predators of native bats

New Zealand has two extant species of bat, the long-tailed bat, and the lesser short-tailed bat, both of which are highly threatened with declining populations. Although the occurrence of bat predation by cats in New Zealand has been known since 1984, it has remained unclear how often such predation occurs and, therefore, how great a risk cats are to bat populations. Borkin et al. (2022) reported on two observations of cat attacks and predation of bats in New Zealand recently, with both cases involving the deaths of several bats and being associated with prolonged predation on targeted bat colonies. Cats involved in these attacks were feral in one case and companion animals in the other, suggesting that whether the cats are commensal with humans or not is not important in predicting the probability of attack. Because of the high numbers of cats within New Zealand (estimated at 1.2 million pet cats without including strays or feral animals), Borkin et al. (2022) conclude that cats are highly likely to impact bat populations where they co-occur to a significant extent. The authors suggest that methods are adopted to exclude cats from local bat populations by either pest control to target feral or stray animals, or containing pet cats to avoid them having access to bats.

Borkin KM, Easton L, Bridgman L 2022. Bats attacked by companion and feral cats: evidence from indigenous forest and rural landscapes in New Zealand. *New Zealand Journal of Zoology*, in press.



Long-tailed bat with wing tears from cat attack. Image source: Borken et al. (2022)

5. Is tree-planting always environmentally positive?

In efforts to address both the climate and biodiversity crises, large scale tree-planting projects have been initiated across the world. Although noble in their up-front goals, however, several of these projects have been criticized for achieving some perverse outcomes. For example, sometimes the area planted is prepared by removing existing tree cover or displacing non-woody native ecosystems leading to a net loss of biodiversity. As well, sometimes the forests created are single species plantations of weedy species, which have low biodiversity values and can threaten adjacent ecosystems. In New Zealand, the One Billion Trees (1BT) programme was launched in 2017 to increase tree planting across the country for improved environmental outcomes including reducing the effects of climate change. Suryaningrum et al. (2022) have recently reviewed the 1BT programme and identified risks for the programme that might impact the carbon and biodiversity benefits that it will deliver. They suggest ten recommendations for how these initiatives could be adapted to avoid perverse outcomes for native species while jointly achieving carbon and biodiversity goals: (1) diversify strategies—protect first, restore second, plant third; (2) consider net change in trees—do not just count trees planted; (3) consider the co-benefits of carbon and biodiversity from the outset; (4) consider the broader landscape; (5) consider the carbon and biodiversity benefits of soil; (6) consider the importance of existing carbon stocks; (7) consider potential impacts to non-tree ecosystems; (8) consider the longevity of the future forest; (9) support landowners in planting and maintaining native trees; and (10) remember that climate goals cannot be achieved by planting trees alone.

Suryaningrum F, Jarvis RM, Buckley HL, Hall D, Case BS 2022. Large-scale tree planting initiatives as an opportunity to derive carbon and biodiversity co-benefits: a case study from Aotearoa New Zealand. *New Forests* 53 (4): 589-602.



Tree planting in New Zealand on a greenfield site. Image source: Bruce Burns

Publications in the current issue of NZ Journal of Ecology (vol 46, issue 2)

Research Article

[Factors affecting home range size of feral cats: a meta-analysis](#) : 3476

Catherine M. Nottingham, Hannah L. Buckley, Bradley S. Case, Alistair S. Glen, and Margaret C. Stanley

[Spatial patterns and habitat use of penned and hard-released arboreal geckos translocated to an offshore island free of introduced mammals](#) : 3477

Grace E. Yee, Joanne M. Monks, and Trent Bell

[Comparison of footprint tracking and pitfall trapping for detecting skinks](#) : 3478

Marieke Lettink, Jim Young, and Joanne M. Monks

[Diurnal, seasonal and annual abundance patterns of California quail \(*Callipepla californica*\) in the Marlborough Sounds, New Zealand, 2010–2019](#) : 3479

Ellen D. Richardson, Stephanie S. Godfrey, Christoph D. Matthaei, and Ralph G. Powlesland

[Effect of plant composition on epigeal spider communities in northern New Zealand forest remnants](#): 3480

Olivier J.-P. Ball, Brian M. Fitzgerald, Stephen R. Pohe, and Patrick T. Whaley

[Applying ecological research to improve long-term outcomes of wilding conifer management](#) : 3475

Ian A. Dickie, Rowan Sprague, Joanna Green, Duane A. Peltzer, Kate Orwin, and Sarah Sapsford

Review Article

[Movements and habitat connectivity of New Zealand forest birds: a review of available data](#) : 3481

John Innes, Colin M. Miskelly, Doug P. Armstrong, Neil Fitzgerald, Kevin A. Parker, and Zoe L. Stone

Other recent publications on New Zealand ecology

Bruce Burns, University of Auckland

Apologies if I have missed your publication in my search. If I have, please send a citation to b.burns@auckland.ac.nz so I can include it in the next Ecotones.

Audrézet F, Pochon X, Floerl O, Le Guen M-J, Trochel B, Gambarini V, Lear G, Zaiko A 2022. Eco-plastics in the sea: succession of micro- and macro-fouling on a biodegradable polymer augmented with oyster shell. *Frontiers in Marine Science* 9: art. no. 891183.

Barlow DR, Estrada Jorge M, Klinck H, Torres LG 2022. Shaken, not stirred: blue whales show no acoustic response to earthquake events. *Royal Society Open Science* 9 (7): art. no. 220242.

Bodey TW, Carter ZT, Haubrock PJ, Cuthbert RN, Welsh MJ, Diagne C, Courchamp F 2022. Building a synthesis of economic costs of biological invasions in New Zealand. *PeerJ* 10: art. no. e13580.

Boys RM, Beausoleil NJ, Pawley MDM, Betty EL, Stockin KA 2022. Evaluating potential cetacean welfare indicators from video of live stranded long-finned pilot whales. (*Globicephala melas edwardii*). *Animals* 12 (14): art. no. 1861.

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