NEW ZEALAND ECOLOGICAL SOCIETY

Newsletter

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Contents

From the Editor

Kia ora koutou,

Welcome to the second newsletter of 2020 from the NZ Ecological Society. This is my first newsletter as Newsletter Editor, stepping in from Angela Simpson. I have big shoes to fill, but Angela has been patiently guiding me through the process.

I hope you all are keeping well. I have found that nature has been a source of fascination, joy, and comfort as we moved into and out of Level 4 lockdown. Here in Christchurch we've had some stunning sunsets recently, and I'm enjoying observing the silvereyes in my little backyard.

This newsletter reflects the ever-changing times we live in but also continues to feature some stalwarts of the Newsletter (Ecotones, ongoings of the NZES Council, and a book review). The newsletter also reflects how we continue to support each other as ecologists, scientists, and people through the Mentoring Scheme, Submission on the Restructuring of the College of Science at Massey University, and the potential partnership to work with the Children's University.

Without further ado, I present you your 171th newsletter!

Rowan

News from NZES council

Kia ora koutou,

These are extraordinary times. As I write this in early May, New Zealand is entering its second week of Level 3 lockdown and has happily just recorded its second straight day of zero new cases of Covid-19. The last 2-3 months has seen vast changes here and overseas: many people have lost family and friends; employees have been let go and working environments greatly changed; uncertainty looms in terms of social and economic recovery; and some struggle with their own health and well-being. To all who have been affected by this pandemic in any way, I extend my deepest sympathy and best wishes for a speedy recovery.

Amidst all the gloom, there have been many cheerful signs. For instance, it is great to see how well those who live in NZ have pulled together to be kind to one another and temporarily sacrifice freedoms to give this country a great chance at quashing this pandemic. It has also been heartening to spot teddy bears in windows, experience a greater sense of community, and see many more people making vastly more observations of nature than is usual for this time of year. Perhaps one of the most pleasing things, which is particularly relevant to us as a scientific society, is the prominence of good science at the heart of the NZ government's decision-making in response to the pandemic.

Scientists and science communicators, such as Siouxsie Wiles, Shaun Hendy, Michelle Dickinson, Michael Baker and many others, have worked tirelessly to advise government and help explain all aspects of the pandemic and the NZ response to it to the public. Shaun's team at Te Pūnaha Matatini, which includes several ecological modellers, has been examining the effectiveness of different responses to the pandemic. Of course, one of the most important people in NZ's response to the pandemic has been the medically-trained Director-General of

Health, Ashley Bloomfield, whose calm, reasoned and clear daily briefings have helped galvanise and guide a nation through lockdown. All of this has been made possible by a government willing to ask for and act on the best-available scientific information, placing it among a small group of nations worldwide which have had similar respect for science and which are currently on track to best cope with the pandemic. Long may this respect for science continue!

This is my first newsletter as NZES President, so I thought I'd provide a little of my background. I grew up in country New South Wales and trained at UNSW and U New England, before working in the tropical rainforests of Far North Queensland for several years. In 2011, I took up a lectureship in ecology at Lincoln University, the *alma mater* of my wife Penny. Most of my research is in the field of plant functional ecology, using traits to better understand how plants respond to disturbances. Recently, this has mostly involved comparing the flammability of different species to understand the traits that influence how well plants burn, examine how flammability has evolved, and identify low flammability species that can be planted to help reduce fire spread across the landscape.

Priorities for the new NZES Council

The first four months of 2020 have been busy for Council. Below I describe our main priorities so far this year and for the immediate future.

First, we are keen to continue the excellent work of the previous council (led by Cate Macinnis-Ng) to improve workplace equity and diversity in all its forms. It is pleasing to see that both women and early career ecologists are well represented on the current Council, and we are currently looking to recruit a Māori representative (please get in touch if you are interested in this role).

Second, we are looking to harness the collective expertise of the NZES membership to make sure that important government decisions on ecological matters are continuing to be informed by the best possible science, and to provide a voice for ecologists on a wide range of topics. To this end we have already made several submissions this year. These include a submission on the National Policy Statement for Indigenous Biodiversity, which was the effort of many relevant experts (many thanks to those who contributed); a letter to Southland Fish and Game expressing concern about the sexist remarks by a Councillor directed at aquatic ecologists involved in the review of the whitebait fishery; and a letter in support of retaining the natural sciences at the Albany Campus of Massey University (see page 6 of this newsletter). If you wish to obtain a copy of either of the first two submissions, please let me know.

Third, to help ensure that the NZES Council keeps on track with our work, we have been reviewing our Strategic Plan. This work is being led by Simon Moore, helped in the previous Council by Bruce Burns and Rachel Nepia. We will continue to revise this plan as appropriate and use it to report back to the society on our progress.

Fourth, we will be continuing the work to make the NZES a more sustainable organisation. Kiri Wallace will lead this project, supported by me and a soon-to-be-appointed Sustainability Officer. Two key tasks this year will be to finalise the draft Sustainability Plan and then begin implementing it.

Fifth, Council is looking to both improve and make explicit the benefits of membership of the NZES. Olivia Burge and Sarah Wyse are leading this initiative and will be updating us soon on their progress.

Finally, we are examining ways for the NZES to help foster and train our youngest ecologists (e.g. primary school students). One way we are seeking to do this is via a collaboration with Children's University (see article on page 14).

An update on the 2020 NZES Conference

As was explained in an email sent on 20 March, Council and the local organizing committee have made the decision to cancel the 2020 NZES Conference, which was to be held in Kerikeri in July. Kerikeri will instead host the 2021 Conference in late November/early December.

We have recently been provided with an updated financial statement and the total loss for the 2020 conference is expected to be $22,700.41. Clearly, this is a considerable amount of money, but some of it will be offset against the conference next year (for instance, the venue booking deposit, the insurance fees, some committed sponsorship, and work already done). We will keep you updated on plans for the 2020 AGM to be held later this year, along with possible regional events to keep our community connected.

We appreciate members who are willing and able to keep their membership current as these subscriptions are our major income stream, and we expect a decrease in membership due to the lack of an annual conference. People not sure of their membership status should get in touch with Olivia.

Thank you to departing Council members

I first wanted to pass on the gratitude of the current Council to Cate Macinnis-Ng for her excellent leadership of the previous Council for two years. On a personal note, thanks Cate for providing ongoing advice as I adjust to the role of president. I am very appreciative that you'll still be around as Immediate Past President! Rachel Nepia (Councillor) and Angela Simpson (Newsletter Editor) are leaving Council and we are very grateful for all the time and effort they have put into their roles. Finally, I wish to thank two members of the previous council who are stalwarts of the NZES: Clayson Howell and Bruce Burns. Our heartfelt thanks, Clayson and Bruce, for your many years of service to the society and your selfless commitment in a wide range of roles.

Please don’t hesitate to get in touch if you have any thoughts on any of these topics. Please stay safe as we continue our efforts to eliminate covid-19 from NZ, and all the very best to you, and your whānau, colleagues and friends.

Kia kaha

Tim Curran

NZES President

Introducing the New NZES Council Members

James Russell, Councillor
James Russell is an Associate Professor at the online University of Auckland. He is most well-known for losing a rat and to atone for this spends much of his time looking for more rats on islands. His primary interest is actually birds, but in his spare time he distils spirits and breeds pedigree bantams.

Nicola Day, Councillor
Nicola Day is a Rutherford Postdoctoral Fellow at AUT. Her research focuses on global change impacts on plant and soil fungal communities, particularly fire disturbance and tussock grasslands. She gets inordinately excited when she sees any type of mycorrhizal fungus.

Kate McAlpine, Secretary
Kate McAlpine is a research scientist at the Department of Conservation. She works on environmental weeds, and her current focus is on the invasion ecology and impacts of woody weeds. For fun, she plays drums and makes art out of stuff she finds in nature (mostly plant material, but also things like dead butterflies and bird skulls).

Rowan Sprague, Newsletter Editor
Rowan Sprague is the Coordinator of the New Zealand Wilding Conifer Group and a knowledge broker for the Winning Against Wildings research programme. She aims to collaborate across biosecurity and biodiversity and relishes working across science, operational management, and policy. When not working, she enjoys tramping, cycling, cooking, and dancing.

Covid-19 update – Effect on NZES Activities

As a result of the Covid-19 pandemic, a number of NZES activities will be affected. We will continue to keep you informed of the effects of the pandemic on our society's activities on this website, through email announcements, and

via social media. This news page will continue to be updated as new information comes to light. The effects on our activities to date are as follows:

- We have cancelled our planned 2020 NZES conference in Kerikeri. We are planning on holding an AGM in November/December using an online format, potentially associated with face-to-face activities at regional 'hubs'. We will continue to monitor the situation and update our plans accordingly.
- The printers for the New Zealand Journal of Ecology have suspended all business for the period of the Level-4 shutdown of New Zealand. We will therefore not be in a position to publish any articles online, and the 44(2) issue of the NZJE may be delayed. We still welcome submissions of articles and will continue to review, and prepare accepted articles for typesetting.

Update on NZES Awards

We have extended the deadline for the applications for our awards until 17 September 2020. This applies to: Te Tohu Taiao, Ecology in Action, and Outstanding Publication on New Zealand Ecology awards. Owing to the cancellation of the conference, there will be no student travel awards for 2020.

Submission to Massey University about the Restructuring of the College of Science

On 23 March, Tim Curran, President of NZES, submitted this letter no behalf of the NZES Council to Massey University to urge the Vice Chancellor to reconsider the proposed restructure of the College of Science. Below is the text of the submitted letter.

Dear Vice Chancellor Thomas

I write on behalf of the New Zealand Ecological Society (NZES), the peak professional body for ecologists in New Zealand with over 500 members. I refer to the discussion document for the restructuring for the College of Science, Massey University, dated Monday 24 February 2020. On behalf of the NZES, I urge you to refrain from implementing the recommendations in that discussion document. There are three main reasons for this.

First, the current global Covid-19 pandemic is causing huge uncertainty and stress among Massey University staff and students, as it is for the wider community. This global emergency is not the time to be adding to that pressure by placing the jobs of whole departments in the sciences at Albany Campus at risk. Please consider taking this restructure off the table until the threat of this

pandemic has passed. There is good reason to do so, above and beyond the relief that it would provide for staff and students. As you are aware, the Tertiary Education Commission has recently ruled that universities will not be required to meet their targets of 3% profit this year; hence, there is reduced financial imperative for restructuring at Massey.

Second, if the recommendations of the discussion document are carried out it would result in the loss of high-achieving scientists and a growing bachelor of science degree in one of the most rapidly growing parts of New Zealand. The School of Natural and Computational Sciences (SNCS) attracts extensive amounts of external funding and currently hosts three Rutherford Discovery fellows and has nine active Marsden grants. The success in obtaining these highly competitive grants demonstrates the very high research calibre of these scientists, who would likely be lost to Massey, and perhaps New Zealand, were the proposed changes to go ahead.

The sciences at Albany has also had enviable growth in undergraduate numbers over recent years, and the SNCS currently has over 600 students undertaking its BSc. This, combined with its location in north Auckland, where domestic university students are expected to continue growing, bucking the recent nationwide trend, places the SNCS in a very healthy position for future growth in students and revenue. Furthermore, Massey University at Albany provides a vital role in the regional community, serving as the nearest university for north Auckland and Northland, and providing regional partners with essential applied science, resource management capacity and community outreach opportunities. Much of this would be lost were the discussion document to be implemented, and the Manuwatu Campus becomes the 'Anchor Campus' for natural sciences.

Third, much of the proposed changes are underpinned by a ramping up of online learning (Digital Plus). While a further shift to online learning has some value, this is likely to be very difficult and time-consuming to achieve, especially in the natural sciences. For instance, how can you adequately prepare the next generation of ecologists for their jobs without taking them on regular field trips where they can get their hands dirty and learn vital practical skills? While certain key skills in the natural sciences can be honed via online work, many skills (e.g. plant and animal identification, microscopy, DNA assays) must be taught face-to-face in the relevant locations (e.g. the field or the laboratory).

For the above reasons the NZES asks you to shelve your plans to restructure the College of Sciences at Massey University. It will be to the benefit of all staff and students for them to instead concentrate their energies on shifting to online learning to meet the challenges of the growing Covid-19 pandemic. Once that crisis has been dealt with, the NZES asks that you work collaboratively with your staff and students to find other ways to cut costs or raise income. As explained earlier, these are some of the brightest minds in the country, and will thus help you develop a plan which ensures the ongoing financial viability of Massey University.

Please note that I do not wish my feedback to be confidential.

Yours sincerely

Dr Tim Curran

President

New Zealand Ecological Society

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. Using whale stranding data for conservation

New Zealand is sometimes considered the 'world's whale stranding capital' with over 5000 strandings recorded since 1840 (Roy and Malloch 2019). Betty et al. (2020) have recently used this extensive database to study the ecology of a little-known cetacean, the long-finned pilot whale (*Globicephala melas edwardii*). The ecology of this species is poorly understood with almost the only data available those from strandings. Stranding records from 1978 to 2017 were used in this study. On average, three mass stranding events including 210 individuals occurred each year, with no significant change in frequency or number of individuals involved over time. Most stranding events occurred in spring and summer, and there was a gender bias towards more stranding of adult females. Most strandings occurred at Golden Bay, Great Barrier Island, Chatham Islands and Stewart Island, but the locations of stranding sites changed over time generally concentrating as time progressed on locations more remote from human activity. From these results, Betty et al. (2020) concluded that there is currently no evidence for overall population increases in this species over time, and that a gender bias towards females may be a natural characteristic of pods. Higher levels of male mortality at sea are described in other studies elsewhere. Changes in stranding locations over time may be related to either changes in the distribution and abundance of long-finned pilot whale's preferred prey, the commercially fished arrow squid, or movement away from anthropogenic activities including noise in the marine environment.

Betty EL, Bollard B, Murphy S, Ogle M, Hendriks H, Orams MB, Stockin KA 2020. Using emerging hot spot analysis of stranding records to inform conservation management of a data-poor cetacean species. Biodiversity and Conservation 29 (2): 643-665.

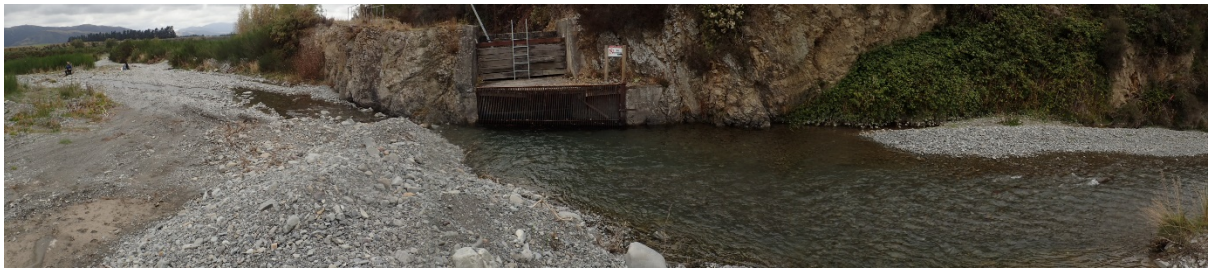
Roy EA, Mallock A 2019. 'What is the sea telling us?': Māori tribes fearful over whale strandings. https://www.theguardian.com/environment/2019/jan/03/what-is-the-sea-telling-us-maori-tribes-fearful-over-whale-strandings, accessed April 2020.

Mass stranding of c. 600 long-finned pilot whales, Farewell Spit, Golden Bay, February 2017. Image source: Project Jonah, New Zealand.

2. Just a little bit more: how does small-scale water abstraction impact riverine ecosystems?

Most water abstractions from New Zealand rivers are small- scale takes for irrigation purposes, and these are increasing under development and climate change pressures. What are the cumulative and individual effects of such abstractions as river flow decreases? Are there thresholds that could guide management? Boddy et al. (2020) have addressed these questions through research examining differences in fish communities in New Zealand rivers above and below water abstraction points. They found that reaches below abstraction points with reduced flows had lower fish abundances, generally smaller fish, shorter food-chain lengths, and, surprisingly, higher native:non-native fish ratios, and that these effects increased with abstraction take. Although there were abstraction-caused effects on all fishes, the change in native:non-native ratios was probably because trout were affected to a greater degree than native fish. Streams could no longer support trout populations at some, as yet undefined, low water level, so providing ecological release of the residual native fish populations from predatory and competitive pressures. Despite this seemingly positive outcome, this research does show that small-scale abstractions can affect all fish assemblages negatively, and fish community measures could provide the basis for biologically meaningful abstraction conditions to meet multiple societal objectives.

Boddy NC, Fraley KM, Warburton HJ, Jellyman PG, Booker DJ, Kelly D, McIntosh AR 2020. Big impacts from small abstractions: The effects of surface water abstraction on freshwater fish assemblages. Aquatic Conservation: Marine and Freshwater Ecosystems 30 (1): 159-172.



Abstraction point on Kowai River, Canterbury with river flow from right to left. Often in summer the surface flows are only maintained about 50m past this abstraction point. Image source: Nixie Boddy.

3. No bats on the highway!

The spread and use of roads are clear indicators of landscape domination by humans, and have many ecological impacts. Currently, road density in New Zealand, though not as dense as some countries, is still 35.2 km per 100 km^2 (NZ is 48th in the world) and is gradually rising (https://knoema.com/atlas/ranks/Road-density). As well, traffic volumes on New Zealand roads has increased by 75% since 1989. In considering road impacts on biodiversity, Borkin et al. (2020) asked how road use might affect New Zealand endemic bat populations. To answer this question, they used paired bat recorders near and >200 m from roads in 57 sites with resident long-tailed bat populations. They found a significant negative relationship between bat activity and night-time traffic volumes, with activity declining rapidly once traffic volumes reached only 1000 vehicles per night. It was not clear what the mechanism behind this decline in activity around roads was – perhaps bats are affected by vehicle light and noise. Whatever the reason, this research suggests that even moderately busy roads could act as barriers to long-tailed bat movement, isolating and potentially fragmenting populations, and these impacts should be considered in future road planning.

Borkin KM, Smith DHV, Shaw WB, McQueen JC 2019. More traffic, less bat activity: The relationship between overnight traffic volumes and *Chalinolobus tuberculatus* activity along New Zealand highways. Acta Chiropterologica 21 (2): 321-329.

Long-tailed bat (*Chalinolobus tuberculatus*). Image source: Kerry Borkin.

4. Microbe cities in lycopod roots

The colonization of land by plants during their evolution appears to have been strongly facilitated by symbioses with fungi in their roots (e.g., mycorrhizae). In trying to understand these relationships, researchers have used modern sequencing techniques to examine which fungi and other microorganisms occur within root tissues. Such studies have revealed an amazing diversity of root endophytic fungi and bacterial, many with functional significance for plant performance, and complex relationships. Lycopods (clubmosses) are one of the most ancient families of land plants, with many species closely resembling fossils, and are well-represented in the New Zealand flora. Benucci et al. (2020) have now published an examination of microbe communities within New Zealand lycopod roots. Over samples from ten lycopod species, they found 4616 fungal taxa and 551 bacterial taxa within roots. Whereas certain fungi were associated with specific subgeneric groups of lycopods, no such community structure was found with bacteria. This suggests stronger relationships and functional roles for fungi in these roots. Surprisingly, few of the fungi identified were mycorrhizal species, with the fungal diversity dominated by Ascomycota and Basidiomycota. Nevertheless, most lycopods were colonized by some mycorrhizal species. Finally, around 16% of the fungal diversity discovered in this study was poorly classified or previously unknown, showing there is much biodiversity left to discover in the habitats within plant roots.

Benucci GMN, Burnard D, Shepherd LD, Bonito G, Munkacsi AB 2020. Evidence for co-evolutionary history of early diverging Lycopodiaceae plants with fungi. Frontiers in Microbiology 10: art. no. 2944.

The lycopod *Phregmariurus varius* at Coatesville, Auckland. Image source: Bruce Burns

5. Wasps are less abundant on tree-covered islands

Invasive wasps in New Zealand cause huge ecological and economic damage and are considered one of the most undesirable pests here (Manaaki Whenua 2020). As well as occurring at stunningly high densities in some beech forests, *Vespula* wasps have colonized almost all parts of New Zealand including offshore islands. Schmack et al. (2020) have recently explored the factors that determine wasp presence and abundance on New Zealand offshore islands using wasp surveys on 36 islands off the east coast of northern North Island. They conducted surveys of wasp abundance at randomly located points on all islands with a novel adaptation of the five-minute bird count technique for this task. They found wasps (*Vespula* spp. and/or *Polistes* spp.) on 35 of the 36 islands. Modelling abundances against a range of potential explanatory variables, wasps were related to the presence and intensity of human settlement on these islands, and activity associated with these settlements probably somewhat obscured predicted biogeographic relationships related to island size and isolation. Wasp abundance, however, was clearly lower on islands with high canopy/forest cover (generally without substantial honeydew resources in this region). Although the mechanism responsible for this relationship is uncertain, it suggests that islands that protect and restore forest cover will reduce wasp success.

Manaaki Whenua 2020. Wasp web: Information on *Vespula* wasps in New Zealand. https://www.landcareresearch.co.nz/science/plants-animals-fungi/animals/invertebrates/invasive-invertebrates/wasps; accessed April 2020.

Schmack JM, Schleuning M, Ward DF, Beggs JR 2020. Biogeography and anthropogenic impact shape the success of invasive wasps on New Zealand's offshore islands. Diversity and Distributions 26 (4): 441-452.

Julia Schmack and Jacqueline Beggs demonstrating their wasp catching skills (?) on an island in the Hauraki Gulf. Image source: Julia Schmack.

Mentoring Scheme

The NZES mentoring scheme is kicking off for 2020. We ran the mentoring scheme for the first time in 2019 and feedback was very positive. The aim of the scheme is to connect members throughout the country and give everyone an opportunity to share their experiences.

We're looking for mentors and mentees. Mentees can be students or early career ecologists (typically within 7 years of completing their highest qualification allowing for career gaps) and mentors can be anyone working in ecology. Some people can be both a mentor and a mentee, for instance, a postdoc could mentor a student and seek mentoring from a more senior

ecologist. Mentoring pairs will be matched based on experience of the mentor and needs of the mentee.

Mentoring topics include balancing work and family, writing a paper and getting it published, developing a CV and any other topics pairs decide they would like to cover. In response to feedback, we will be providing some ideas for pairs to cover in their meetings.

The scheme is run online and we generally expect mentoring pairs to meet every four to six weeks via Skype or Zoom between the months of May and November. People who took part in the scheme are welcome to apply again this year. We will do our best to accommodate everyone.

If you are interested in being part of the scheme, please apply using this google form by Friday 22nd May. Please fill in the form twice if you would like to be both a mentor and a mentee.
https://docs.google.com/forms/d/e/1FAIpQLSfmCMMfQjHRtUicRWfqcGAO-2b_2JzQoMPeM5966OwYaaGt3Q/viewform?vc=0&c=0&w=1

Address any questions to mentoring scheme coordinator Cate Macinnis-Ng - c.macinnis-ng@auckland.ac.nz

Exploring a partnership between NZES and Children's University

Tim Curran

A key objective of the NZES is to 'increase awareness and understanding of ecological principles'. At a Council meeting last year, we were discussing how the society might achieve this with younger generations, particularly those without many opportunities or resources to meet with and learn from practicing ecologists. This discussion led to a resolution to explore opportunities to collaborate with the Children's University, a relatively new programme in NZ.

Children's University Canterbury Partnership (CUCP) is a joint initiative between Lincoln University and the University of Canterbury. It encourages children to engage in exciting and innovative learning activities and experiences outside of the classroom, aiming to raise aspirations for further and higher education, and encourage lifelong learning. In response to the Covid19 lockdown, CUCP is creating a range on online activities that can be accessed by our members and the general public. If you are interested in assisting to create activities and raise the profile of ecology with children please email the Programme Manager Amy.Underdown@canterbury.ac.nz.

Discussions between NZES and CUCP are currently underway, but in the meantime there are many ways that individual members can get involved. While the CUCP is currently focussed on the South Island, there are plans to expand it

to other parts of the country in the future. Of course, if you had online material on aspects of ecology that would be suitable for delivery to primary school students, then it won't matter where you are. If you do live on the South Island, particularly in areas without a nearby university, and are interested in running or participating in live learning activities, please contact Amy Underdown.

More information on the CUCP can be found here:
https://cuaustralasia.com/about/?cu_region=NZ

MIREN Alien Invasive Species Survey

The MIREN alien invasive species survey team has designed a survey focusing on the perception of alien invasive species in mountain regions around the globe. They are trying to get as much engagement as possible, particularly from often under-represented areas such as the southern hemisphere. Please fill out their survey in the link below if you are interested. Here is what the team says:

Working in or around mountains? Then you may be interested in filling out our new survey on invasive species in mountain regions (https://svar.uib.no/LinkCollector?key=E52A83G1JP92).

MIREN has created a survey on the perception of alien invasive species in mountains. The aim of this survey is to get the perspectives from a broad range of stakeholders worldwide (managers, land-owners, farmers, policy makers, conservation, scientists, etc.) on whether and to what extent they view **alien invasive species** (i.e. plants, animals and microorganisms) as a problem in **mountains**, thus causing negative impacts on nature and society. We are also interested in which species are seen as the most problematic, what impacts these species have, and how the species are managed.

The results of this survey will be published in an academic journal as a short commentary article about stakeholder understanding of alien invasive species impacts in mountains. Findings will also be communicated more broadly as brief summaries. We expect that this information will be used as an input for global and local assessments on alien invasive species. If you wish to find out more, please contact invasivesurveymiren@gmail.com.

What you can do:

- Fill out the survey (it will take you 15-20 minutes of your time, and gives us invaluable insights)

- Spread the survey far and wide among your contacts working in mountains. You'll see that the survey is available in a wide range of languages.

- Try to convince your local land managers, land owners, policy makers etc. to fill out the survey.

Book review of *Hauturu: The history, flora and fauna of Te Hauturu-o-Toi, Little Barrier Island* edited by Lyn Wade and Dick Veitch

Fiona McIntosh

When I first picked up this book, I realised how little I actually knew about Hauturu other than in a very general way from incidental information I had heard or read since I started studying ecology *c.*17 years ago. My review is therefore from a Hauturu 'novice' but with a fair knowledge and understanding of vascular plant species, vegetative ecology, and pest plant and restoration interactions; I have not read the previous summaries which this volume updates. My first impression upon picking up the book was that it is beautifully presented with a wide range of good quality photos, the abundance of which generally corresponds to the length of the chapter. At 400 pages (including appendices and references), the weight and thickness of the book makes for a pleasant, un-daunting reading experience, and the ribbon bookmark is a useful addition.

The book, as a whole, gives an interesting and informative summary of the human and natural history of the island and the challenges associated with the human aspects of discovery, land tenure, ownership, tensions between conservation and cultural considerations, and manaakitanga and the ecological realm of eradication, control, and management of undesirable species which mirrors the challenges experienced throughout New Zealand. The conservation 'experiments' on this island have often provided important insights into individual species management (both native and non-native) and has therefore paved the way for successful conservation and management actions elsewhere around the country. I was particularly interested to read about the changes in animal and floral biodiversity and densities following rat eradication – some of these, such as improved seed set and reduced juvenile animal mortality, were already known to me, but the subsequent disappearance of vespulid wasps was unexpected and begs the question of whether this same pattern might be observed elsewhere following rat eradication. It is noted in several places within the book that, because it has only been *c.*14 years since rats have been successfully eradicated, the full impact of pest animal eradication on species distributions and interactions is, as yet, unknown.

There are individual sub-chapters for each main life-form (invertebrates, reptiles and amphibians, birds, bats, vascular flora, mosses, liverworts and hornworts, lichens, fungi, stream vertebrates, and seaweeds) and a separate chapter on marine life. The length and breadth of each chapter or sub-chapter generally reflects the amount of time and effort spent on investigation and management since the late 19th century, with detailed chapters on caretakers, geology, invertebrates, birds, vascular plants, and restoration. The content in these chapters is well-supported by Chapter 9 (Species lists) and the appendices, which include current status and control methods for pest plant species and notes on translocations both to and from the island, bird and herpetofauna habitats and abundances, and threatened vascular plant populations. Most of

the chapters would be easily read by, and hold the interest of, both an experienced 'natural history' scientist or ecological practitioner and a general member of the public; however some of the chapters (particularly geology and bryophytes) include terminology that requires a more than basic understanding of the subject matter and would benefit from a glossary. As an ecologist most experienced with vascular plants and vegetation patterns I was pleased to see good descriptions of the broad vegetation types on the island which includes observations of changes in vegetation patterns over time; reference has been made to the previous vegetation maps and types for easy direct comparison.

The book is well written and laid out, and would be a valuable addition to the library of anyone who is interested in island ecology, conservation management, or general natural history of New Zealand. At around $60 plus postage and packaging, it is also very affordable for the quality and size of the tome.

Publications in the current issue of NZ Journal of Ecology (Volume 44, Issue 1, 2020)

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.

Alam MA, Wyse SV, Buckley HL, Perry GLW, Sullivan JJ, Mason NWH, Buxton R, Richardson SJ, Curran TJ 2020. Shoot flammability is decoupled from leaf flammability, but controlled by leaf functional traits. Journal of Ecology 108 (2): 641-653.

Allen RB, MacKenzie DI, Bellingham PJ, Wiser SK, Arnst EA, Coomes DA, Hurst JM 2020. Tree survival and growth responses in the aftermath of a strong earthquake. Journal of Ecology 108 (1): 107-121.

Baling M, Stuart-Fox D, Brunton DH, Dale J 2020. Spatial and temporal variation in prey color patterns for background matching across a continuous heterogeneous environment. Ecology and Evolution 10 (5): 2310-2319.

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Call for Nominations for the Leonard Cockayne Lecture Award

The Call for Nominations for the 2021 Lecture tour is now open. The Cockayne Memorial Fund was established by public subscription to commemorate the life and work of Leonard Cockayne by the encouragement of botanical research in New Zealand. Under the rules amended by Council in 1957, the interest from the fund shall be used for grants in aid of addresses to be delivered or publications related to botanical research by New Zealand workers. Council in 1964 resolved to institute a triennial Cockayne Memorial Lecture, to be supported by the trust fund.

This award is offered every three years and the prize is a public lecture tour and $2500. There is no formal nomination form for the award. Names and short biographical details (about one A4 page) should be sent to Gill Sutherland, Director- Academy Operations at academy@royalsociety.org.nz. All suggestions will be considered by the Academy Executive Committee who will make the final decision.

The closing date is 30 June 2020.

Noticeboard and upcoming conferences

https://www.isbe2020.com/program/call-for-abstracts/ -
Postponed to 11-16 September 2022

11th INTECOL International Wetlands Conference, Christchurch, 2021

The INTECOL Wetland Working Group (WWG) will hold the 11th INTECOL International Wetlands Conference in Christchurch, New Zealand, in October 2021. The Chair of the organizing committee is Philippe Gerbeaux, and the Co-Chairs are Deirdre Hart, Clive Howard-Williams, Di Lucas, Aroha Mead and Shona Myers. The tentative conference theme is: Traditional knowledge and innovative science in wetland research and management. A strong Maori and Oceania cultural presence is guaranteed within and around the conference.

Stay tuned for more information! http://intecol.org/node/37

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