Ecological Society Newsletter

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NOTICE OF SPECIAL GENERAL MEETING TO CHANGE THE FINANCIAL YEAR OF NZES

Monday 17th January 1:00-1:30pm in lecture room S2, Lincoln University, Canterbury. (During the Southern Connections Congress III conference).

Why an SGM?

Under the Rules of the Ecological Society, any change to the Rules requires approval at an AGM or SGM. One of the Rules sets the financial year as ending on 31 March. Council wants to change this to 31 December, requiring an SGM to be called.

Why change the financial year?

Because we are changing the publication dates of the *NZ Journal of Ecology* to earlier in the year. Issues used to come out in June and December. We are now producing them in January and July. This improves their citation rates relative to the date on the cover and gets journals out to members more rapidly. However this means that the January issue is produced before members have paid for the year on or after 1 April, and we can't send the journal out till they have paid, resulting in needless delays. A second advantage of changing the financial year is that with the annual conference often being in July rather than August, this leaves too little time for audited accounts to be prepared after a 31 March close-off date. Therefore Council recommends moving to a 31 December end to the financial year, effected by having a 9-month "year" in 2000.

What charge would be levied for the "short" year?

This does not require approval at the SGM as Council sets fees. However Council recommends keeping the fees for the "short" year the same as for a full year, because almost all the main benefits of the society will still be delivered to members. In the short year you will still get two journal issues (delivered even earlier than before), an annual conference, and society newsletters. The savings to NZES from having one fewer newsletter and one less Council meeting are estimated at only around $4,000 out of an annual expenditure of $41,000 or so. Since the Society will make a loss this current year of at least $5000 due to producing two extra-large issues of the journal (with 150-180 pages compared to the normal 100) we think that members will get excellent value for money in 2000 at the standard membership fees.

INSIDE:

What rule changes are needed?

Change Rule 7(d) from "The financial year of the Society shall end on the 31st March in each year",

to "The financial year of the Society shall end on the 31st December in each year".

Change Rule 3(d) from "Any member of the Society may resign by giving notice in writing to the Secretary and paying all subscriptions due; provided that any member giving such notice before 31st July shall not be liable to pay the subcription for that year"

to ". . . giving such notice before 31st March shall not be liable . . ".

Why at Lincoln?

The SGM is scheduled during lunchtime on the first day at the Southern Connections Congress III at Lincoln. This international conference will probably see many NZES members in one place. (If you are not already enrolled, check the web pages at www.lincoln.ac.nz/cted/south/ or email Glenn Stewart at stewartg@lincoln.ac.nz).

Why should I come to the SGM?

An SGM has a quorum of 30. If we don't get 30 current members to come along, we can't do this and will have to wait for the AGM. If you are at the Southern Connections conference or in Christchurch, please come to the SGM. It should take only about 20 minutes.

Dave Kelly (secretary)

NOTES FROM COUNCIL

Friday 30 July 1999, PAMS, University of Canterbury

Web pages are up at http:\\www.nzes.org.nz as of 29-7-99, they seem good.

Treasurer report tabled and discussed

Royal Society membership - annual cost of circa $1250, what are the benefits for NZES? We need a summary of benefits and costs to report to members.

Discussed various options for the financial reserves policy - AGM agreed to aim for one year's expenditure (c $40K). Discussed procedures for spending by Secretariat.

Conference fees - Point raised that non-members should be charged extra, by slightly MORE than the membership rate, to encourage them to join. How would that work with government and quasi-government organisations? Should write to all non-member attendees at Blenheim (and Dunedin) thanking them for participating, outlining benefits of membership (e.g. attending future conferences, discounts, advance notice) and asking them to join.

Talked about the financial year and how it relates to production times of the journal and publication of exceptionally thick issues. Also discussed journal costs, subscription rates, reprints, journal promotion, encouraging non-member authors to subscribe and how to publicise the Ecotoxicology issue for sale if there are extra copies. Library subscription rates for journal were discussed and revised upwards slightly.

David Coomes was accepted for Editorial Board.

We seem to be getting higher manuscript submission rates with a potential to increase the journal size. Council discussed various options to deal with this including requiring manuscripts to be of a higher standard, but more rejections are likely to hit students hardest, which is negative. David Wardle proposes introducing a length limit (and also being tougher on length) when he rewrites the Instructions to Authors: proposing 15 pp or equivalent in words. General agreement with that. Also can reduce costs by getting better figures (with thicker lines capable of being reduced in size without losing definition) from the authors. Should mention this in Instructions for Authors as well.

The last Newsletter was a very long since it included the Royal Society Code of Ethics. No feedback on the suitability of adoption, or otherwise, of this code was received.

Conference 2000 (Hamilton) was discussed briefly. It was proposed to look into the option of a workshop on hybridisation – joint with the Ornithological Society of NZ and perhaps supported by DOC. Needs to be self-funding, can't be just about birds and has to have some concrete outcome e.g. what are priorities for DOC management of hybrids etc. Environment Waikato 2001 Environmental Odyssey conference was discussed briefly.

Discussed report from Wren Green on IUCN representation. Wren wants a rep from NZES as well as himself, and offers to find someone.

Some discussion about the Education Subcommittee.

50th Anniversary: see minutes of meeting 19-5-98, first constitution dated 4-9-51 and first Society meeting as 20-5-52 so anniversary is in 2001. Christchurch seems the obvious choice for a jubilee conference, going in rotation and so forth, and also a large venue assuming there might be crowds.

Next meeting dates; 18 February 2000, 19 May, at conference about 27 August. Special General Meeting will be at SC3, Lincoln, 17 January 2000.

REMINDER: CODE OF ETHICS

Any comments on the draft code of ethics, printed in the last newsletter? Please send to Mark Sanders, DOC, Twizel or email msanders@doc.govt.nz so that he can collate the views of NZES members.

NOTE FROM NEWSLETTER EDITOR

I regret to inform the members of the New Zealand Ecological Society that this is my last newsletter for a while. I have tendered my resignation and coucnil has accepted it. Unfortunately, I will not have the time to continue in this role for the next year or so. I'm taking up the cudgel to finish my Ph.D. Working full-time (with a lot of field work) does not leave me a great deal of time, so I'm having to forgo a lot of commitments so that I can spent every spare moment on the PhD.

James Ross at Lincoln volunteered to take over as newsletter editor. I would like to thank all the contributors and people who have supported me in this role over the years.

Astrid Dijkgraaf, *Past Newsletter editor*

NEW ZEALAND ECOLOGICAL SOCIETY AWARD FOR BEST PUBLICATION BY A NEW RESEARCHER

It's time to enter your publication(s) for the inaugural New Zealand Ecological Society Award for Best Publication by a New Researcher. The NZES will award an annual prize of NZ$200 for the best published paper of an ecological nature, by a new researcher. This award is targeted at people at the start of their research career. The award will be presented at the NZES's annual conference in Hamilton 2000, and reported in the NZES Newsletter.

Authors wishing to be considered for this award must meet the following criteria:

- Be the first-named or sole author of the paper.
- Be a current member of the NZES.
- Either currently be a student or have graduated within the last 3 years, and be at the start of their research career.
- The paper should be of an ecological nature, preferably published in an ecological journal (not restricted to publications in the NZ Journal of Ecology).

Authors wishing to be considered for this award should send 4 copies of their publication to the NZES Awards Convenor no later than 31 March 2000 (Ben Reddiex, Ecology and Entomology Group, PO Box 84, Lincoln University, Canterbury). All publications will be reviewed by a committee nominated by the NZES Council. At the discretion of the nominated committee, no award may be made in any given year.

Ben Reddiex, *Awards Convenor*

ECOLOGICAL SOCIETY 50TH ANNIVERSARY

Dear Ecological Society Members,

I was present a foundation member of the NZES, and I was interested to read in the August Newsletter that the foundation of the Society and its 50th anniversary were discussed at the 1999 AGM.

There were some meetings in Wellington early in 1951 - I think they may have begun in 1950, but I was not involved until 1951 - where a group of people, led by K. Radway Allen, discussed the possibility of forming a New Zealand Ecological Society. Allen at the time was the head of the Fisheries Laboratory, in the Marine Department, and was working on the ecology of the trout population in the Horokiwi Stream. He was a member of the British Ecological Society and was keen to see a similar Society in NZ. Among others who attended the discussion meetings were Dick Dell (from the then Dominion Museum), Sharon Watson and Peter Bull (DSIR, Animal Ecology); I think Wodzicki used to come too, but I am not sure, and there were probably one or two others. I had been appointed at the beginning of 1949 as a soil zoologist at DSIR Soil Bureau, to work on the ecology of earthworms and their relationships with soils.

Those who took part in these preliminary meetings in Wellington proposed and subsequently organised a meeting during the 7th Science Congress of the Royal Society of New Zealand, held in Christchurch in 1951, and invited interested people to come to that meeting to discuss the formal establishment of a New Zealand Ecological Society.

At the meeting in Christchurch, which I attended, it was formally moved and agreed to found the Society, and it was also resolved that all those present at that meeting should be regarded as founding members of the Society. The meeting elected K. Radway Allen as Convenor of a Committee, whose initial task was to prepare a proposal for the Society's aims and rules and to organise a first Annual Conference of the Society, in Wellington, in 1952. I was recruited as the first secretary-treasurer of the Society, and worked closely with Allen (and his wife, who was an accountant and gave us a great deal of help in drawing up a set of Rules, establish-

ing the Society's accounts, and many other things that were necessary). We organised the first Conference, as agreed, at Victoria University (College, as it then was) in May 1952. Strong support came from many people; at the time there was not much interest in ecology among botanists in Wellington, but we had enthusiastic support from Prof. V.J. Chapman and others from his Botany Department in Auckland. Allen became the first President when the first Council was elected at the 1952 meeting.

So I suppose it could be said that the Society began in 1951, at that meeting in Christchurch, when, as I remember, it was agreed that the annual sub would be 10 shillings, and subs were collected from then on. But I think it would be more realistic to say that it began with the first Conference, in 1952.

The NZ Ecological Society has been a great success over the years and I have always regarded it as one of the best things I have contributed to during my 50+ years association with ecology and soil science.

With best wishes,
Ken Lee

Note on the 50th Anniversary from John Parkes

The first meeting of the Society was published in NZ Science Review 10(6) in June 1952. It reports the first meeting of the Society was held at the Science Congress in Christchurch in May 1951, but "came into active existence" with a 2-day meeting at Victoria in may 1952, ending with 150 members. The "proceedings" in the above journal.

The second annual meeting was also held in Wellington in May 1952 and published as Vol 1 of the Proceedings of the NZ Ecol Soc. A list of members at that time is in this journal.

Thus, the 50th anniversary should probably be celebrated in 2002.

JOINT NZES AND ESA 1998 CONFERENCE

A final report from the first joint conference between NZES and ESA, University of Otago, Dunedin, November 1998.

The conference held last year in Dunedin was the first of it's kind – a combined annual conferences of both the New Zealand and Australian Ecological Societies – and also the 50th anniversary of the rediscovery of Takahe. As a result it was also the largest conference the society has ever organised. We anticipated around 250-300 people. The final count of numbers attending was 426, 265 of whom were from NZ, 152 from Australia and the remainder from the UK, and North America. A total of 147 students from both countries attended, encouraged, possibly, by the very low registration fee. Our aim was to keep costs to a minimum generally, and we managed to do this as a result of sponsorship from the Flight Centre, who have been supporting Takahe research for some time now. The response to this event bodes well for future joint meetings.

The conference was preceded by a one-day student symposium organised by Brent Sinclair, Ann Cresswell and Amelia McQueen. The programme consisted of 16 oral presentations from both NZ and Australia. Around 80 people attended the day sessions and 50 attended the quiz night sponsored by a number of local businesses.

The main conference was opened with four invited speakers, Dave Kelly and Henrik Möller from NZ, and Steve Morton and Lesley Hughes from Australia, giving their views on ecology in their country. They were followed by Tom Martin, University of Montana, with an enlightening overview of northern hemispere biases in the study of bird life-history evolution. An important part of the conference was a celebration of Takahe research and conservation with a half-day symposium, which included Natural History NZ Ltd archival footage of the first expedition to the Murchison Mountains. Other special topic symposia included in the conference were on environmental weeds, plant-animal mutualisms, seabird ecology and management, species management programs and spatial analyses of forest communities. The species management symposium, in particular, attracted a large number of day registrations, and the Wildlife Society of the NZ Veterinary Association joined us for that symposium. Of 167 oral presentations in total, Australians slightly dominated at 85:79 (the other 3 presentations were from North American delegates). Australians also slightly dominated in posters (38:51). However if these values are corrected for the size of the respective societies, New Zealanders were clearly more productive! Nearly a third of all oral presentations were by students (50/167) and nearly half of the posters were by student presenters (42/89). Sixteen students received a share of $2000 financial assistance to attend the conference.

The conference was a fabulous success, thanks to a hard-working (long-suffering) organising committee and a hard-working army of student volunteers from the Botany and Zoology Departments. The brilliant weather, the sumptuous morning and afternoon teas, the lively trans-Tasman exchanges and the haggis ceremony at the Annual Dinner will leave a lingering taste in the mouths of many participants.

Thank you everyone for your enthusiasm.

Janice Lord, Botany Dept. University of Otago.
On behalf of the conference organising committee.

ERRATUM

Our apologies to the Nature Heritage Fund. We incorrectly referred to them as the Nature Heritage Trust in our last newsletter.

REPORT ON PROFESSIONAL BODIES MEETING WITH MFE, 16 SEPTEMBER 1999

MfE Activities - General

The looming election has not meant a slow-down in MfE work. Many activities are ongoing regardless, such as HSNO regulations, RMA submissions, indicators work etc. Professional bodies are specifically invited to keep MfE informed of any strategic issues they consider important to consider for next year. They could then take these into account when reviewing their Strategic Business Plan. MfE may also review the Environment 2010 Strategy, but this could obviously be influenced by the views of the new Government.

HSNO Reform

Technical matters concerning the regulations are now finished. The next step is law drafting for the regulations before they can be promulgated. It is hoped this will enable the regulations to come into effect before the end of this year.

It is MfE's intention to introduce a HSNO Amendment Bill before the House rises for the election. A principal part of the Bill will enable a faster track for low risk applications or when entry for a variant of a known substance is being applied for.

Update on RMA

The deadline for submissions on the latest RMA Amendment Bill was 1st October 1999.

It is unlikely that Select Committee consideration of the submissions will occur before the election, given the level of detail and the amount of Select Committee work that will be involved. Hence, the fate of the submissions will depend very much on the composition of the new Government and of the relevant Select Committee. The new Government may also have views on the basic issues in the Bill itself - so watch this space.

MfE are continuing work on the development of a website in conjunction with Local Govt. NZ and others that would allow access to 'good practice' information from a variety of sources around the country.

Biodiversity Strategy

A summary of the submissions is available on the biodiversity strategy website. There will be a report back to Government before the election. There have been changes made to the Strategy following the submissions, both to the goals of the Strategy and to various actions.

As you will recall, there is the suggestion that a national policy statement is developed on biodiversity under the RMA. MfE are presently considering this as only a part of a package relating to achieving effective management of natural resources on land other than public conservation lands. From discussions around the country MfE have picked up the message, well known to many of us, that the concept of biodiversity is poorly understood. As a consequence they have a scoping document, with the working title of "Bio What?" that has yet to be fine tuned, before it goes to Government next year. They anticipate going around the country with workshops for multi-stakeholder groups talking, amongst other things, about practical aspects of conserving biological diversity, as well as considering regulations and other measures that may be used.

Biosecurity Strategy

The Biodiversity Council have a very slim (2 page) "Draft Biosecurity Strategy for New Zealand" on which comments on their proposed principles are invited. Given its brevity, there is lots of room for input.

Proposals for National Environmental Standards

MfE is working on a number of these (for significant issues only) and will start with ones for organochlorines, hazardous waste, used oil management, air quality and water quality. Standards, which may turn into national definitions and also into guidelines, are seen as only one of a number of tools available for addressing the wider concerns of protecting human and environmental health. Other tools include economic instruments, best practice examples, advocacy, education.

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REGIONAL IUCN MEETING HAS BEEN POSTPONED

21 September 1999

Many of you will be aware of the intention of holding a second regional meeting for IUCN members, Commission members, and other interested people in Australia, 22-24 October 1999. The meeting was organised to coincide with the visit to Australia and New Zealand of the IUCN Director-General, Maritta Koch-Weser.

Unfortunately, the decision had to be taken late last week to postpone the meeting until next year. There were two main reasons behind the postponement. The first was a shortfall in funding to offset travel costs, especially for people from the Pacific Island countries. The second was the decision of the Director-General to defer her Oceania travel to some later time. In addition, the small ACIUCN Secretariat has been very stretched lately and a later date will give more time for organising a successful meeting.

Suggestions are that late February, perhaps early March 2000, would be the first sensible date to hold the meeting. Any feedback would be welcome. We will endeavour to re-book the same venue, the Seascapes Conference Venue at Gerringong, which is 2 hours south of Sydney. We are also hopeful that the funding situation will have improved by next year and we will be able to host a well attended and productive meeting.

The first IUCN regional meeting for Oceania was held in June 1996 as part of our preparation for the First World Conservation Congress in Montreal. It was very successful and under the regionalised, decentralised Union that is being established there is more and more responsibility for Union work falling to regional fora of members and Commissions.

The programme will necessarily include topics such as the Oceania input to the forthcoming IUCN Programme that will go to the Congress in October 2000. We had also planned special sessions on World Heritage and Invasive Species. Feedback on topics to include will be welcome.

Wren Green
Regional Councillor and
Chair, IUCN Oceania Regional Committee
2 Hinau Rd, Hataitai, Wellington 6003
Phone +64 4 934-5913

SUBMISSION ON THE FORESTS AMENDMENT BILL

Presented to the Transport & Environment Select Committee 1/9/99 by Murray Efford. Feel free to send replies for inclusion in the next newsletter or to Murray Efford.

Introduction

Thank you for inviting me to appear before the committee.

I am a scientist employed by the crown research institute Landcare Research in Dunedin. I have some expertise in forest ecology and resource management through my work on possums. My submission draws heavily on my experience in the computer modelling of animal and plant populations.

I would like to address four questions:

- What are "models" and how can they help us to manage resources?
- What do models say about the trade-offs involved in low-intensity beech harvest?
- How has modelling informed recent decisions on beech management?
- What are the implications for the Forests Amendment Bill?

What are "models"...?

A "model" distils what we know about processes in nature into a compact and rigorous statement. Usually it is a set of mathematical equations or a computer program. Models are used routinely in ecology to explore the "behaviour" of dynamic systems - how they might unfold over time given different conditions. Models are most useful when they are simple and have explicit biological assumptions.

... and how can they help us to manage resources?

Models for sustainable forestry have two fundamental aims

- prediction of timber yield
- prediction of ecological impacts

Ideally (and from a policy point of view this is important), models may do both simultaneously. They can make explicit the trade-offs between ecological and economic values.

Carl Walters, a Canadian authority on adaptive management, wrote in 1997[1]:

"...adaptive management should begin with a concerted effort to integrate existing interdisciplinary experience and scientific information into dynamic models that attempt to make predictions about the impacts of alternative policies"[a].

Predictive models are essential for making good resource management decisions where the conse-

quences are likely to be irreversible or long-delayed, or where decisions are difficult to reverse because of administrative, social and economic inertia.

What do models say about the trade-offs involved in low-intensity beech harvest?

Timberlands West Coast Ltd (TWC) plans to establish a low-intensity harvest regime for various beech species[2]

Most of the beech to be harvested by TWC is in old growth forests that have not been logged before. This is especially true for red beech in the Maruia Working circle, where most of the wood is in trees 200 to 400 years old[3]. Logging exposes these forests to many additional risks (weed spread, increase in possum numbers, long-term nutrient depletion from removal of wood, changing species composition)[4]. However, the central issue is the direct, long-term effect of logging on forests, especially the loss of large trees. Large trees are essential to the aesthetic and ecological qualities of a forest: they provide physical structure and simple grandeur, roost sites for kaka, kakariki and bats, niches for perching plants, etc. Their conservation importance is generally accepted.

Models help us appreciate the long-term effects of management. What rate of wood extraction can be continued in perpetuity? What will be the effect on the number of large, old trees? Sensibly, Timberlands chose a style of model that, if properly used, could help answer both these questions.

A size-structured forest model (Fig. 1) allows us to predict timber yield, from the numbers of trees in millable size classes, and to predict the future number of large trees. Such models are widely used in population ecology. More complex forestry models, on which I do not claim expertise, include site characteristics (terrain, soil fertility, etc.) to make more specific predictions. TWC justifiably excluded this detail from their calculations of yield at the level of the working circle (10 000 - 20 000 hectares).

TWC used their model to calculate a harvest per size class that they believed to be "sustainable" in the strong sense of not changing the size structure of the forest, i.e. the number of trees in different size classes.

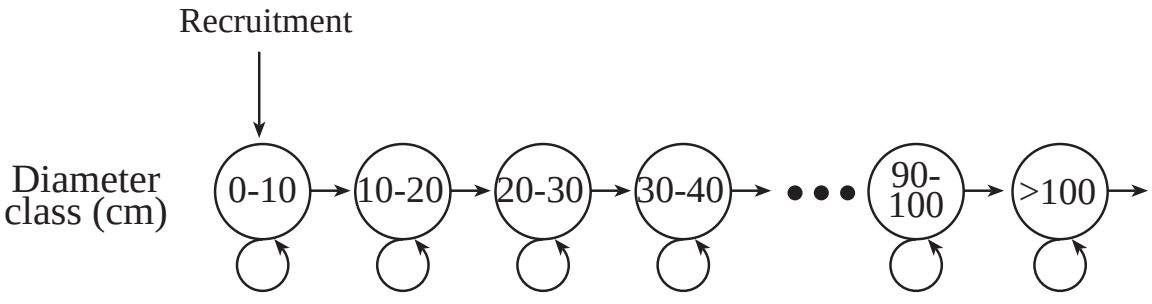
This use of the model was without scientific precedent[5] and was correspondingly risky.

Unfortunately the model contained two significant errors, one essentially mathematical and the other logical. The formulae for growth from one size class to the next were unintentionally biased in a way that exaggerated the rate of increase in the number of trees, and hence the timber yield. For example, a forest in a steady state (natural mortality = recruitment) appeared in the TWC model to be increasing at about 20% every 15 years, which was about the size of the intended harvest[6].

The logical error is that the TWC model assumes what it sets out to prove: that logging does not change forests. It does this by presupposing that harvesting "preempts" natural mortality, or in other words that low-intensity logging does not increase the total mortality rate in a forest. Sustainable harvesting of steady-state populations relies on the observation that depleted stocks tend to increase their *per capita* biological productivity. This is what ecologists call compensatory or "density-dependent" population growth. The assumptions in the TWC model amounted to a belief that they could obtain a density-dependent response from the forest without reducing its density.

I documented these concerns in a scientific paper published in late June[7]. The challenge was then to adapt the model so that it might be used in Carl Walters' words "...to make predictions about the impacts of alternative policies". The result was a new, interactive model that has been available on the Landcare Research web site[8] since 10 August. The new model explicitly includes compensatory diameter growth (the intensity of the effect can be varied by the user). In other respects it is a mathematically

Figure 1. Size-structured tree population model.



refined version of the one used by TWC, and uses the same input data.

We have yet to explore systematically the behaviour of the model - in fact, no such work is currently scheduled. However, two general conclusions can be supported:

- Even low-intensity logging will reduce the number of large, old trees, and,
- The forest can provide a continuing yield of timber from the smaller trees that increase in abundance

The rate and extent to which harvesting reduces the number of large trees depends on how many trees are felled in each 15-year cycle.

Compensatory mortality (increased survival at lower stand density) was not allowed in the version on our website because it is unlikely to occur. Small coupe logging has previously been observed to weaken forests and to increase wind-throw and pinhole borer infestation. It is still unclear whether the net effect of logging on the survival of remaining trees is positive or negative. Nevertheless, preliminary trials show that even optimistic levels of compensatory mortality do not change our general conclusions.

How has modelling informed recent decisions on beech management?

Did the decision process that ended in the approval of the beech scheme last week benefit from the improved transparency that modelling can bring to discussions of indigenous forest management? Rather little, it appears. To a large extent this was predictable from the differing professional and personal values of the various parties - interest groups, experts, TWC and the Ministry of Agriculture and Forestry (MAF). Models addressing goals specific to one group (for example timber yield) do not carry much weight with other parties.

Drafts of the TWC plans had been reviewed by a panel of forestry experts for the Ministry of Forestry (MoF). Their December 1997 reports were released under the Official Information Act in November 1998. Their comments are noteworthy in two respects. Firstly, Dr G. Whyte identified as a "major deficiency" of the plans in general "lack of clarity in stating management objectives and how conflicts among them are to be resolved"[9].

Specifically (and I think rhetorically) he asked:

"[How] can the impact of sustained yield management on natural ecological processes be minimised and at the same time develop the forest resources in a manner that contributes to the economy of the West Coast region?"[10].

Secondly, the experts were dismissive of the idea that TWC can or should retain the present forest structure. This reflected their professional enthusiasm for "good forestry practice" emphasising timber yield. For example, Dr Nora Devoe's report[11] stated:

"The New Zealand public must recognise that a managed forest is not the same thing as a nature preserve. A well-managed forest differs from an unmanaged one in several respects, not the least of which are species composition, age structure, and growth rates, and for sound biological and economic reasons."

TWC adopted a strategy emphasising environmental sensitivity, and chose to "place politics first" by avoiding deliberate stand enhancement[12]. This was moderated slightly in the final plans by the inclusion of "improvement felling" (thinning). However, the final plans did not allay the fundamental concerns about incompatible goals. In November 1997[13],

"TWC was invited to indicate in plans the likely future status of the old (untouched) component of the stands, as portrayed by the model over a time sequence, to provide some basis for comparing the present and future structure of the forest".

This invitation was not taken up by TWC, and the final plans presented no time projections and little indication of how conflicting goals were to be reconciled[14].

I believe that the public policy process surrounding the beech scheme decision has been quite unsatisfactory. The published accounts of the TWC modelling failed to depict the likely long-term outcomes of low-intensity logging. Modelling known to be inadequate[15] was promoted by TWC as showing that logging could proceed without changing the forest structure. MAF published a Policy Discussion paper that implicitly endorsed the TWC modelling and omitted any reference to changing forest structure from the list of environmental effects[16]. When inadequacies were revealed in public during the consultation process, TWC dismissed the criticisms as "asinine"[17](b). MAF in turn dismissed the relevance of modelling inadequacies to the decision, because they believed from other models that the volume yield was achievable[18]. This opinion significantly omitted any reference to the ecological constraint of maintaining the old-growth forest structure. TWC have subsequently asserted that other as yet unpublished models justify their optimism[19].

Implications for the Forests Amendment Bill

My expertise does not extend to the legal issues surrounding forest management.

There does appear to be an opportunity through this Bill to promote more robust and transparent procedures for indigenous forest management.

This is likely to require the vigorous development and application of models.

Conservation groups generally do not have the resources to pursue technical issues, yet they de facto have substantial responsibility for safeguarding the public interest through the resource consent process in the Environment Court.

This situation might be partially corrected by requiring MAF to take a more active role in promoting and resourcing open and effective debate.

Notes

(1). Walters, C. J. 1997. Challenges in adaptive management of riparian and coastal ecosystems. Conservation Ecology [online]1 (2):1. http://www.consecol.org/Journal/vol1/iss2/art1/

(2). The plans published in September 1998 are available at http://www.timberlands.co.nz.

(3). This statement is based on the growth rates and current size distribution in Section 5 of the TWC Maruia Working Circle plan

(4). Some of these risks are acknowledged in the TWC plans; others are documented in various submissions of November 1998, including those of the Royal Society of NZ, and of G. Elliott and others.

(5). A "Review report" on the draft TWC plans dated 5 December 1997 was prepared by Udo Benecke and Alan Griffiths for the Ministry of Forestry. It includes individual reports by six experts, and notes of a meeting on 27/11/97 between TWC representatives and some of the panel. At the meeting "[Ian James] noted that unfortunately this use of the model has not been published".

(6). TWC wrote to various MPs on 12 July and claimed of my published scientific paper that it "considerably down rates his original results". I suspect this misconception is based on a misreading of the paper, which in fact provides the basis for my present argument.

(7). Efford, M. G. 1999. Analysis of a model currently used for assessing sustainable yield in indigenous forests. Journal of the Royal Society of New Zealand 29: 175-184.

(8). The web address is http://www.landcare.cri.nz. The new model was presented at the annual meeting of the NZ Ecological Society in Blenheim on 2 July. Online documentation describes its technical differences from the TWC model. Except for compensatory growth these are derived from Efford (1999).

(9). Review report p. 51.

(10). Ibid.

(11). Review report p. 61.

(12). Review report p. 68.
See also Hager, N. and Burton, B. 1999. Secrets and lies. Craig Potton Publishing.

(13). Review report p. 69.

(14). This is probably because the TWC model was not able to make such time projections: it assumed a tree population kept at equilibrium.

(15). The modelling expert used by MoF, Dr Whyte, was consistently dismissive of the TWC modelling (e.g., Review report p. 54). Although some of his requests for more explanation were met in the final version, he later stated "My initial reaction is that you will never be able to do the calculations of sustained yield yourself, as the methodology is subsumed within a model which Ian James and TWC will not reveal algorithmically." (email to M. Efford 13/10/97)

(16). MAF Policy Discussion Paper 8. October 1998. Pages 14-16.

(17). Christchurch Press 27/11/98

(18). The ministry's response to submissions critical of the modelling was:
"When MAF's Indigenous Forestry Unit [IFU] reviewed the plans, it was aware of the shortcomings in the model. The IFU was satisfied that the current volume projections for harvest were well below broadly estimated volume estimates providing a considerable safety margin while models are improved as part of adaptive management"
'An analysis of public comments on the sustainable management plans for the beech/podocarp beech production forests of North Westland.' Section 2.4 http://www.maf.govt.nz/MAFnet/publications/wcanal/httoc.htm 24/12/98.

(19). Kit Richards on Kim Hill Show National Radio 25/8/99.

(a). The amount of detail we include in a model depends partly on how much is known, but also on its purpose. Simple models that abstract the key elements of a system are often the most informative.

(b). Rather than follow through on its public commitment [press release] to have an independent scientist review the submissions

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NEW AND RESIGNED MEMBERS

Eleven new members accepted with thanks: two joint members (Dr David Choquenot & Dr Wendy Ruscoe), three full members (Dr Mike Dodd, Dr Avibhakta Holzapfel, Jenny Steven), and six unwaged members (Alison Evans, Loretta Ho, Cindy Jenkins, Souzi McGill, Chris Shaw, Deborah Wilson).

Three resignations accepted with regret: Dr R Creese, L. Reitsma, Dr Maggie Wassilieff

MEMBERSHIP

As at 21 July 1999 the Society had 443 members: 6 Honorary members, 281 full members, and 156 unwaged members. (This excludes members who are 2 years in arrears with their membership). There were 107 subscribers to the Journal (43 in New Zealand, 64 overseas) plus 16 who receive complementary copies (Current Contents, etc).

LATIN AMERICAN CONNECTIONS

The Latin American Studies Programme at the University of Auckland is compiling a directory of New Zealand academic and research relations with Latin America.

Research done by New Zealand institutions on Latin America or in cooperation with Latin American institutions, is an area which can be expected to expand. This directory has already contributed to raising the profile of such research and collaboration. Preliminary copies of the directory were requested by both MFAT and MORST as preparation for the respective ministers who headed delegations to South America.

Copies were also circulated among representatives of government, private sector, and diplomatic representatives of Latin American countries, at a Seminar on Foreign Policy and Trade with Latin America which was organised by our programme last October. Copies are sent to all those who submit entries, and will also be given to visitors from Latin America to the University of Auckland.

As well as this directory, we plan to circulate information regarding research grants to promote research on, with, and by Latin Americans in New Zealand.

So far we have managed to survey most universities and some CRIs but would like to include all the research and/or academic links to Latin America in this directory.

We therefore ask for your cooperation in circulating the form.

Thank you very much for your help,

Dr Kathryn Lehman
Spanish Department
University of Auckland
Private Bag 92019
Auckland
Email: is k.lehman@auckland.ac.nz

MEMBER FORM

Name and institutional affiliation.
Please detail any academic contacts you have either had or facilitated with Latin America in the past FIVE years, or which you are planning to have/facilitate, under the categories specified below. Your reply will be greatly appreciated, and in return we will send you a copy of the latest version of the directory.

1. Research collaboration or consultancy

Host institution/academic in Latin America:

- Time period for collaboration/consultancy.
- Short description of your activities.
- Names of any New Zealand students involved in collaboration.

2. Visits from Latin American academics

(experts from or on Latin America)

- Name and affiliation of visiting academic.
- Time period of visit.
- New Zealand host institution.
- Short description of activities involved (conference, seminars, research, etc.).
- Your own role in facilitating the visit:.

3. Conferences/seminars in New Zealand on Latin American related topics/issues

- Title/ theme of conference/seminar.
- Dates of conference/seminar.
- Host institution.
- Your own role in its organisation.

4. Conference presentations in Latin America/Publications in Latin American journals

- Title of your presentation/paper.
- Title of conference/ journal.
- Dates of conference/ issue.
- Conference location.

5. Leave or study trips to Latin America

- Host institution/ academic(s) in Latin America.
- Time period of your trip.
- Short description of purpose of your trip.
- Names of any of your students undertaking study/research trips and dates/description of those trips.

6. Publications on Latin America/Resulting from collaboration with Latin American academics

(please give full references)

7. Other New Zealand academica you know with expertise in Latin America who may want to be listed

Please send reply to k.lehman@auckland.ac.nz

PREDATOR-PREY RESEARCH IN THE NORTHERN HEMISPHERE

During June 1999 I travelled overseas on a Landcare Research Manaaki Tangata Fellowship to look at predator-prey research in the northern hemisphere. It is impossible to tell you all that I learnt during my travels in such a small space. So at the risk of losing your attention, I will report only on the more "scientific" aspects of my trip. Please drop me a line, if you would like to see the extended version of this report.

My first stop was at the **3rd European Congress of Mammalogy** in Jyväskylä, Finland, which focused on mammalian evolutionary and behavioural ecology, and population dynamics. The Scandinavians in particular are pre-occupied with population cycling in microtine rodents (voles and lemmings), which they have been studying for decades and about which they still have lively debates as to what drives these cycles. Heikki Henttonen (Finnish Forest Research Institute) talked about microtine cycles in northern Fennoscandia where there are regular population fluctuations every 3-5 years. The Finns have been monitoring rodent cycles for up to 50 years, and have found a gradient from north to south where northern population crashes are deeper and occur for extended periods compared with more southern populations. Heikki explained this gradient (moving south) as a declining role of destabilising specialist predators (i.e., stoats and least weasels), and an increasing role of stabilising generalist predators (e.g., arctic foxes). Stoats and weasels are able to continue feeding on rodents during the harsh winters by hunting under the snow pack. Note the emphasis on predation as the regulating factor, but they do not rule out the importance of winter food shortage and disease. The contention among the population ecologists is on the emphasis they place on the relative importance of predation, food, disease, and social constraints in driving cyclic fluctuations. After the conference a group of us visited the **Kilpisjärvi Biological Research Station**, 300 km north of the arctic circle in Lapland. Kilpisjärvi is known for long-term vole population studies started by Professor Olavi Kalela immediately after World War II. Lemmings have also been studied. Their numbers follow the 3-4 year vole cycle but about every 30 years there are major population irruptions that culminate in mass migrations. The spring migration of 1970 was considered the biggest migration known for the area this century.

Kim King, Ken Ayers (University of Waikato), and I then visited Wlodzimierz Jìdrzejewski, leader of the predator ecology group at the Polish Academy of Sciences' Mammal Research Institute in Bia³owie¿a, Poland. Bia³owie¿a Forest is a World Heritage Area and a Biosphere Reserve because it contains the only remaining example of old- growth lowland deciduous forest in Europe. The overall goal of the Mammal Research Institute's work is to determine the roles of predation, food, and abiotic conditions in shaping vertebrate communities in the temperate forests of Europe. Basically what they have found is that every predator species (and there are lots of them) is specialised on one of the many prey species. For example, wolves eat mostly red deer, whereas lynx eat mostly roe deer. Because there are so many prey species, predators are able to maintain their abundance by buffering themselves on secondary prey, even when their primary prey is scarce. This manifests itself in continued hunting pressure on primary prey as prey abundance declines (i.e., a type II functional response, sensu Holling). Predation rates therefore increase as prey declines (i.e., inversely density dependent predation). The researchers also found that fluctuations in prey numbers are driven mainly by food abundance and inclement weather (especially heavy snow and frosts). These effects can often overwhelm predation effects. Predators are therefore probably unable to regulate prey across most prey densities. The exception to this rule is when prey becomes very scarce. Here predation rates decrease as prey declines to very low levels (i.e., directly density dependent predation), and prey are regulated at low levels until conditions improve again for prey. In a nutshell, this means that prey can be regulated by predators at very low densities, but when food is abundant, prey can escape the "predator pit" and increase dramatically, and predation becomes insignificant. Similar processes have been postulated by others for explaining outbreaks of house mice in Australia. It is interesting to note that one of the problems with describing numerical responses of European predators such as wolves and lynx is that they are sometimes dramatically affected by perhaps the most important predator in Europe are humans. The sheer density of people and the violent conflicts during both World Wars have seen hunting drive

many species to extinction. Humans are the only predator, for example, to send moose and bison to extinction. These animals are normally safe from predators because of their large size. These days, hunting is tightly regulated. Even so, recent moose harvest modelling by Anne Lehtonen and others (University of Helsinki) has shown that population declines in Finland can occur very fast in a narrow range of harvesting rates. Indeed, in some years hunting has been too intense.

I then visited the **Canadian Arctic Institute's Kluane Lake Research Station** in the Yukon Territory, Canada. From 1986 to 1996, the Canadians conducted a large experiment called the Kluane Boreal Forest Ecosystem Project. This experiment looked at trophic relationships in the forest by manipulating eight 1-km^2 blocks of forest. Fertiliser was added to two blocks, commercial rabbit chow was added to two blocks as food for the hares and other herbivores, mammalian predators were reduced by fencing two blocks, and no manipulations occurred in three control blocks. Food was added to part of one of the predator reduction blocks. Fertiliser increased plant growth but not enough to affect hare populations. Food addition tripled hare abundance, and predator reduction doubled hare abundance during the peak and decline of the cycle. But food combined with predator reduction increased hare abundance 11-fold. Food and predation together had a more than additive effect, suggesting that a three-trophic-level interaction generates the hare cycles. In other words, hare cycles result from the interaction between food supply and predation. These effects were working mainly through survival rates of hares but, interestingly, hare breeding declined during the decline phase of the cycle regardless of whether food was added or whether predators were reduced. This suggests that there may be social constraints on breeding during this phase or that food, despite being abundant, becomes less available to hares because they are too busy avoiding predators (some predators, particularly raptors, were able to penetrate the predator reduction treatments). High predator densities during the decline phase might force hares into closed habitat where food is more scarce. The hare cycle is characterised by a long low phase, and some researchers have suggested that in addition to the high predation rates that occur during this period, hares are highly stressed by the threat of being eaten and therefore produce less fit young. I also visited Bob Hayes, an ecologist who works for the Yukon Territory Department of Renewable Resources, at the nearby township of Haines Junction. Bob is involved in a $2 million project looking at why moose, caribou and Dall sheep populations have been in decline in recent years. These animals have been traditionally hunted by three "First Nations" tribes (the indigenous Canadian Indian people) and they want to see ungulate densities recover. So they culled and surgically sterilised wolves in a large-scale experiment to see if predators were regulating ungulates at low levels. All the field work is done in the dead of winter because, despite the cold, this is when animals can be snow-tracked and when they are more easily seen from the air. So far the results only for caribou are available. Their numbers doubled in 4 years. Wolf predation had a profound influence on age and sex structure of the herds because the ratio of calves to cows, and the ratio of bulls to cows, increased sharply after wolves were reduced.

Some lessons for New Zealand - New Zealand is world renowned for saving critically endangered species. Our record in aviculture, species translocations, and predator control is unsurpassed. When considering better ways to mitigate the threat of introduced predators, it is tempting to think that all we need to do is develop better ways of killing them. This may be true for protecting endangered species, but for species that are still relatively common it pays to think a little more broadly and consider other factors besides just predator density that might predispose native fauna to predation. Common species that are declining today could be tomorrow's critically endangered species. An important aspect in understanding predator-prey interactions is the relationship between primary and secondary prey. If there is one generalisation that stands out about New Zealand's predator problem it is the reliance of introduced predators on introduced prey (i.e., rodents and rabbits). Because predators can maintain themselves on introduced prey, they can exert very high pressure on indigenous secondary prey. This poses the question for New Zealand - can we mitigate impacts on secondary prey by managing primary prey?

Another factor that affects the vulnerability of prey to predation is the spatial configuration and structure of habitat. Research, mainly from overseas, has shown that predation is often more intense on ecotonal boundaries and in habitat that has been simplified. Complex habitat can provide refuge from predators, and that can sometimes mean the difference between persistence or extinction at low densities. So another question for New Zealand is whether the size, shape, and internal structure of wildlife habitat can be manipulated to mitigate predator impacts? These are some of the interactions that are considered in predator-prey theory. Some of

that theory can lead to predictions about critical prey densities that represent extinction thresholds, and to factors that affect the position of such thresholds. Paying more attention to these underlying predator-prey processes might be an insurance policy that prevents species reaching dangerously low densities.

The Scandinavians have been studying their predator-prey systems for a long time, and so they have data sets going back many decades. I probably don't need to espouse the virtues of long-term monitoring but it is only virtuous if it addresses the questions being asked. It would appear that long-term monitoring has been inefficient in elucidating all the causes of prey cycling in the northern hemisphere, but it has been very helpful in generating hypotheses! More recent experimental ecology has revealed a lot about the mechanisms of prey cycling that monitoring could not. The debates about prey cycling still go on of course but they boil down to differences in emphasis of causality (mainly food and predation) that probably result from geographic differences in community structure and biome type. The lesson for New Zealand is pretty simple really: develop clear testable hypotheses about predation, and design replicated controlled experiments to test them. This is easier said than done ; practicality and cost are major issues when studying predator-prey ecology. Predators usually have large home ranges, so experiments need to be done on a large scale.

An interesting contrast to the large-scale experimental approach I saw in Canada was the Polish research. The Poles did little, if any, experimentation (although predator culling during the wars were natural experiments), yet they have a good understanding of how their predator-prey systems function. This is probably because they measure parameters that are critical for predator-prey modelling (e.g., predation rates, food intake by predators, prey abundance); they have excellent field ecologists who can measure those parameters; their work spans most of the trophic connections in their forests; and they have scientists who ask critical questions within the context of predation theory.

So some golden rules for predator-prey research in New Zealand are:(1) think beyond just predator density as a threat for indigenous prey;(2) develop clear hypotheses about threatening processes and undertake replicated experiments that can test them;(3) develop models of predator-prey systems that are based on good parameter estimation, particularly food abundance and its effects on animal demography; and (4) train and foster excellent field ecologists. Excellent skills in field ecology are especially important for studying critical species like stoats and cats. These predators are notoriously destructive, and are notoriously difficult to study.

Finally, I would like to thank Landcare Research for awarding me this Manaaki Tangata Fellowship. It gave me an excellent opportunity to broaden my experience overseas and to learn about some fascinating ecological systems.

Grant Norbury
Landcare Research
PO Box 282, Alexandra
Email: norburyg@landcare.cri.nz

MARSUPIAL CRC SEEKS COLLABORATORS

Marsupial CRC is now entering its fifth of seven years and intends to bid for further funding from the Commonwealth CRC program next year to continue its operations from 2002 to 2009. We have been actively consulting with government agencies, industry and public interest groups to define the research, development and technology applications goals of the new CRC. The new CRC will build on existing achievements and expertise but will also move into new areas of marsupial conservation and management which have been identified as priorities through our consultations. In all probability new core parties and collaborators will need to be added to consolidate and expand the CRC's resources and expertise.

Our vision is a secure future for marsupials in native environments and the benign management of marsupials in problem situations.

Marsupial CRC is currently made up of 5 core parties (Macquarie University, Newcastle University, Perth Zoo, Qld Dept Primary Industries and Landcare Research in NZ) plus another 11 organisations with which we collaborate (Australian and international including - state agencies, universities, research organisations and companies).

Marsupial CRC is seeking expressions of interest from individual scientists and organisations interested in working with us. CRC's are not for everyone but they can offer a very exciting inter-disciplinary collaborative environment focused on the solution of practical problems. We are particularly interested in identifying individual scientists with skills which complement existing expertise or fit particular needs in our planned new areas of work to establish a standing register of potential collaborators.

Marsupial CRC is currently very diverse and spread widely with staff in - Perth, Sydney, Newcastle, Brisbane, Canberra and Charleville - Christchurch, Palmerston North and Dunedin (New Zealand) - Ithaca (New York, USA).

CRC research projects include work in: reproduction and development, reproductive technology, basic immunology, reproductive immunology, molecular genetics, ecology, population biology, population genetics, captive breeding and reintroduction, conservation genetics, ecological impacts of abundance, wildlife management, development of fertility control technology, virology, disease impacts, plant, bacterial and viral biotechnology. Many current CRC researchers had no specific marsupial experience when joining the CRC but brought critical expertise in other areas. The CRC also has an active education program including postgraduate, professional development, undergraduate and schools focused activities and there will be opportunities for involvement here as well.

For more information:

See our home page www.newcastle.edu.au/marsupialcrc or contact me jrodger@possum.bio.mq.edu.au.

If you are interested in registering an expression of interest please contact Susan Reid sreid@possum.bio.mq.edu.au and leave your name, postal address, email address, phone and fax numbers plus a brief outline of your area of expertise (50-100 words).

John Rodger, Director

ECOLOGICAL RESEARCH NEEDS

Some financial and in kind contributions are available from horizons.mw for MSc or PhD research projects that investigate any of the following topics:

Are substrate quality (New Zealand Soil Classification) and climatic gradients significant contributors to the genetic differentiation of a plant species? Can substrate quality (at soil order/group level) be correlated with the presence of distinct plant populations in regions that have had a continuous forest cover, extending over millennia?

What are the natural/observed daily (pollination & seed dispersal) and seasonal ranges of Kereru; Tui; Bellbird (keystone species) and Tomtits, Robins, Kaka in a coherent native forest and a landscape of fragmented native ecotopes.

Critical habitat size and floral composition to sustain viable native bird populations.

Critical habitat connectivity. What distance of cleared land do native birds regularly traverse to reach another habitat?

How effective are fruiting exotic trees (permaculture corridors) f. ex. *Sorbus aucuparia*, *Morus* spp, *Prunus* spp. etc) and shrubs (*Ribes* spp, *Rubus* spp, *Sambucus nigra* etc,.) in providing food and shelter for native birds? What species (native birds and exotic plants) are involved and particularly useful?

What are the critical population sizes of native keystone and indicator birds, to identify and pre-empt threats to population viability through inbreeding? (Concern: Long-term viability of isolated populations in remote habitats)

Competition between blackbirds/silvereyes and tuis/bellbirds in intact and fragmented native habitats.

Please send your research proposals to:

Ecologist/Environmental Scientist
Resource Policy and Projects Dept.
horizons.mw
Manawatu-Wanganui Regional Council
11-15 Victoria Avenue
Palmerston North
New Zealand
Email: helmut.janssen@horizons.govt.nz
NZ Post: Private Bag 11025, Palmerston North
Phone: +64-6-357-9009
Fax: +64-6-356-7477

References:

O'Donnell C.F.J., Dilks P.J., 1994. Foods and foraging of forest birds in temperate rainforest, South Westland, New Zealand. NZJ of Ecology Vol. 18, No2

Castro I., Robertson AW, 1997. Honeyeaters and the New Zealand Forest Flora: The utilisation and Profitability of small flowers. NZJ of Ecology Vol. 21, No2.

Williams P.A., Karl B.J., 1996. Fleshy fruits of indigenous and adventive plants in the diet of birds in forest remnants, Nelson NZ. NZJ of Ecology Vol. 20 No. 2.

SEEM3 UPDATE

Third Conference on Statistics in Ecology and Environmental Monitoring

"Estimating Animal Abundance and Related Parameters"

Honouring the Contribution of Professor George Seber to Ecological Statistics

The conference will be held at the University of Otago in Dunedin, New Zealand from 6-10 December, 1999. Presentations will cover aspects of statistical ecology with a particular emphasis on mark-recapture application and theory and general sampling methods for wild animal populations. Keynote speakers include:

- George Seber, (Auckland University, NZ)

- Anne Chao, (National Tsing Hua University, Taiwan)
- Carl Schwarz, (Simon Fraser University, Canada)
- Jim Nichols, (Patuxent Wildlife Research Center, USA)
- Ken Burnham, (Colorado Cooperative Fish and Wildlife Research Unit, USA)
- Ken Pollock, (North Carolina State University, USA)

Sessions included in the conference:

- Closed population mark recapture models
- Open population mark recapture models
- Analysis of long-term ecological data sets
- Sampling ecological populations
- Contribution of statistics to ecological theory
- Fisheries stock assessment and management
- Ecological modelling

A programme can now be viewed at the conference website.

Arrangements have been made with the editor of the Journal of Agricultural, Biological and Ecological Statistics (JABES) to publish key papers from the conference in a special issue. Due to limited space we will publish papers from the keynote speakers and a selected number of other papers in this special edition. Papers that cannot be accommodated in the special issue will be considered for publication of JABES following the usual process of peer revision. Those wishing to have their paper considered for publication will be required to submit the full text at the conference.

Registration: We are accepting late registrations. A registration form can be downloaded from the conference website (see below).

Fax/phone/mail contact:

Secretary, SEEM3 Conference

Centre for Applications of Statistics and Mathematics

P.O. Box 56, Dunedin, New Zealand.

Ph 64-3-479 7774 Fax: 64-3-479 8427

Email: casm@maths.ac.nz

http://www.casm.otago.ac.nz/courses/SEEM3/

WORLD WIDE WEB ADDRESSES

This seems to be an amazing web site. When you click a button, various sponsors donate food to hungry people internationally. Max one visit per day. http://www.thehungersite.com

Third Conference on Statistics in Ecology and Environmental Monitoring "Estimating Animal Abundance and Related Parameters" http://www.casm.otago.ac.nz/courses/SEEM3/

CONTACT EMAIL ADDRESSES

NZ EcolSoc email list server

(Address changed)

Please note that we don't promise that messages will be frequent, or gripping; this is a means of communication, not a promise of enlightenment! It will work if ecologists here use it (well).

To subscribe send a message to the automatic Mailserv processor at:

nzecosoc-request@its.canterbury.ac.nz

(NOTE this address has changed) The recommended way to subscribe is to send a message with two lines:

SUBSCRIBE NZECOSOC

END

UNSUBSCRIBE NZECOSOC

This is the command you should use if you want to stop receiving mail from this list.

Once subscribed, you will receive instructions on how to send messages, unsubscribe etc. PLEASE KEEP THESE INSTRUCTIONS AND FOLLOW THEM.

To send a message to people on the list, even if you are not subscribed, use the address;

nzecosoc@its.canterbury.ac.nz

this will send the message to everybody currently on the list. To reply you have two options. You can either hit reply and reply to everybody, or reply to the author only.

For information on the listserver contact the newsletter editor (astrid@mad.scientist.com) or myself at d.kelly@botn.canterbury.ac.nz. For information on the Australian listserver contact Dave Kelly.

3RD SOUTHERN CONNECTION CONGRESS

Lincoln 17-22 January 2000.

This conference covers ecology and biogeography of gondwanan lands. Please note especially the call for offers of posters, and that you can just sneak in with an oral paper if you hurry. Also, early bird (discounted) registrations end on 19 November.

For more information see the web page at:

www.lincoln.ac.nz/cted/south

or email Glenn Stewart at:

stewartg@whio.lincoln.ac.nz

CIRCUMPOLAR ECOSYSTEMS

4Churchill, MB, Canada

Summary

The Churchill Northern Studies Centre would like to invite you the 4th Circumpolar Ecosystems conference and workshop. These meetings will be held during 16-21 February, 2000. The goal is to bring together biologists, ecologists, atmospheric and earth scientists who study in regions that are predominately influenced by winter. We would like to especially encourage papers that review the state of climate warming and its impacts on northern systems. In the workshop, we will examine lifestyles of northern peoples, field research, and wildlife adaptations to low temperatures. Igloos will be available! Please contact the Centre at one of the addresses below.

Rationale

Winter-dominated systems are covered with snow and ice during a significant part of each year. This type of cover reflects about 80% of the incoming radiation. Consequently, the timing and duration of snow cover is very important to the global energy balance. Furthermore, the distribution and redistribution of snow has a large impact on the subsequent water balance of the terrain during the frost-free period. Winter processes then, are significant to the summer water balance which is important to ecosystem productivity and ultimately its biodiversity.

Living organisms have developed unique adaptations to winter-dominated systems. These include adaptation to short life cycles, periods of dormancy, migration, and endurance of the cold conditions. Humans have also encountered unique problems and have adapted to the winter environment. All these biological components integrate into systems that are characteristically peat-forming. In fact, winter-dominated systems store a disproportionately large amount of the global carbon. In warm, wet periods, these systems may release carbon to the atmosphere and during other times, carbon is taken from the atmosphere and stored. Consequently, circumpolar ecosystems are important as a buffer for carbon which will stabilise the concentration of greenhouse gases in the atmosphere.

One human adaptation to the winter period is to be indoors (e.g. teaching) or away from the circumpolar ecosystems. Consequently, these systems are poorly studied and poorly understood - particularly during the dominant period.

Workshop proposal

The CNSC is proposing to hold its 4th symposium and workshop at Churchill, Manitoba, Canada during the mid-winter period. The workshop is designed to offer hands-on experience to the seasoned veteran as well as the uninitiated student, researcher, modeler, policy maker, or interested person. In the past, the agenda, has included the Arctic Feast, igloo building, and dogsleding. Expeditions have included examination of conditions on either side of the continental treeline during an arctic blizzard, a sea ice dive to examine the marine environment in winter, and a journey to Prince of Wales Fort to examine winter conditions experienced by early European settlers. The town of Churchill is a model community that has been designed for winter-dominated environments. Meeting the northern residents and discussing their lifestyles has also been part of the workshop. Other activities have included acquiring and preparing food and clothing in the north, as well as a fashion show of outdoor wear.

Symposium proposal

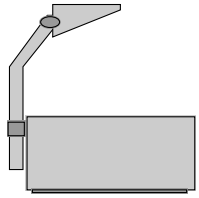
The CNSC has been working with a number of individuals and organisations to bring this meeting to you. The symposium will include poster and oral presentations of 15 to 20 minutes of which, submitted papers will be considered for publication in a refereed journal of international stature. For this meeting we would welcome all aspects of winter-dominated systems such as, but not limited to, biological, geographical or anthropological research. Examples can be found in previous proceedings which were published in Arctic and Alpine Research 32 (1); Arctic 46(4); and Climate Research 5(1). The goal at this meeting will be examine and assess the state of climate process research in the northern North America, and how these climate processes are influencing the biodiversity and ultimately, global stability in a changing world. Recognising, preserving and monitoring biodiversity in circumpolar ecosystems will be a major challenge over the next century.

Schedules and costs

The workshop is planned for February 16-18, 2000. The symposium is planned for February 18-21, 2000. The cost for the symposium is $200 (Can). The cost for both, the symposium and workshop is $300 (Can). Fees include the registration package, ground transportation, food and accommodation. If you are interested in participating, please contact the CNSC at the earliest possible convenience using one of the addresses on the other side of this brochure. There is limited space available. Once you are registered, we

will send you the conference registration package in early fall (1999).

World Wide Web Site: www.brandonu.ca/cnsc/
Executive Director: Harvey Lemelin
Telephone: 204-675-2307
Fasimile: 204-675-2139
Email: cnsc@cancom.net
Mail: P. O. Box 610, Churchill
MB, R0B 0E0, Canada
Scientific Coordinator: Dr. Peter Scott
Telephone: 905-852-3149
Email: pascott@interhop.net



UPCOMING CONFERENCES

3-5 December 1999
'**Forgotten Peoples, Missing Dimensions':** NZ Historial Association Annual Conference Waikato University, Hamilton, New Zealand. Contact Anna Green Department of History University of Waikato Private Bag 3105 Hamilton Phone: (07) 856 2889, ext 6280 Fax: (07) 856 2158 Email: agreen@waikato.ac.nz

6-10 December 1999
SEEM3: 3rd Conference on Statistics in Ecology and Environmental Monitoring
Dunedin, New Zealand. Contact Email: igoodwin@maths.otago.ac.nz

8-10 December 1999
Physiological Society of NZ AGM/ Conference
Wellington, New Zealand. Contact wshsbr@wnhealth.co.nz

January 2000
Southern Connections Conference
Details from Glenn Stewart at Lincoln University or Matt McGlone at Landcare Research, Lincoln

March 2000
"Cafe Ecology"
Auckland. Convened by the NZ Institute of Landscape Architects on the theme of exploring the link between Landscape Architecture and Ecology. The organisers are looking for ecologists to speak and attend. See flyer included with this issue.

22 January - 18 February 2000
SciTec 2000
Christchurch, New ZealandContact Tel. 64 3 379 2008 Fax. 64 3 379 7131 email. turningpoint2000@ccc.govt.nz

29 January - 4 february, 2000
10th International Echinoderm Conference
Dunedin, New Zealand. Contact Dr M.F. Barker, Department of Marine Science, University of Otago, Box 56, Dunedin, New Zealand, e-mail:mike.barker@stonebow.otago.ac.nz

2-5 March 2000
International Landcare 2000 Conference and Exhibition
Melbourne, Australia. Contact International Landcare 2000 Conference, 93 Victoria Ave, Albert Park, Victoria 3206, Australia

6-9 March 2000
Vertebrate Pest Conference
San Diego, California, USA Further information is available on the VPC home page or see earlier item in this issue.

17-25 March 2000
Water 2000 Conference & Expo "Guarding the Global Resource"
Auckland, New Zealand. Contact New Zealand Water & Wastes Association, P O Box 15-974 New Lynn, Auckland 1232, New Zealand, Email: water@nzwwa.org.nz, Tel: +64-9-827 5757, Fax: +64 9 827 2003, WATER 2000 Website: http://www.nzwwa.org.nz

14-17 April 2000
Spacetime 2000: Royal Astronomical Society of New Zealand Annual Conference
Upper Hutt, New Zealand. Contact Edwin Budding, CIT, Upper Hutt (secretary@rasnz.org.nz)

14-18 May 2000
The 2nd Pacific Basin Conference on Adsorption Science and Technology
Brisbane, Australia. Contact Prof. D. D. Do Department of Chemical Engineering The University of Queensland St Lucia QLD 4072 Australia

6-11 June 2000
Third International Weed Science Congress
IWSC Foz do Iguassu, Brazil. Contact P J Eventos - Feiras e Congressos, Rua Jose Risseto, 1023 - curitiba, Parana - Brazil, CEO 82.015010 - Phone/ Fax 5541 372 1177, Email: pj@datasoft.com.br

3-11 June 2000
Earth 2000 Conference
Sydney, NSW, Australia. Contact: Wildlife Preservation Society of Australia, G.P.O. Box 3428, Sydney, NSW 1043, Australia. Ph/fax 61 2 9556-1537

24 June - 9 August 2000
2000 International Science Festival
Dunedin - The City of Science, New Zealand. Contact Caroline Cook Director 2000 International Science Festival P O Box 5819, Dunedin New ZEaland Tel: 0 3 474 3338 Fax 0 3 474 3458 director@scifest.org.nz

27-29 June 2000
NZIAS/NZSHS Convention: The Noah Paradigm! Strategies for Managing Climate Variation in our Primary industries
Palmerston North, New Zealand. Contact Tel/Fax ((+64-3) 3842432 Scicon 2000 Palmerston North, New Zealand.

3-7 July 2000
15th Australian Statistical Conference
Adelaide, Australia. Email: 15ASC@sapmea.asn.au

3-7 July 2000
15th Australian Geological Convention: Understanding Planet Earth – Searching for a Sustainable Future
Sydney, Australia. Contact 15th AGC C/- Geological Society of Australia Suite 706, 301 George Street SYDNEY NSW 2000 Ph 02 9290 2194, fax 02 9290 2198 email: 15thagc@gsa.org.au

16-23 July 2000
XIX Congress of the International Society for Photogrammetry and Remote Sensing (ISPRS), Geoinformation For All
Amsterdam, The Netherlands. ISPRS Organizing Committee, Attn. Ms Saskia Tempelman EMAIL: isprs@itc.nl, URL: http://www.itc.nl/~isprs

6-10 August 2000
Ecological Society of America 85th Annual Meeting
Snowbird, Utah.

7-12 August 2000
XXI IUFRO World Forestry Congress
Kuala Lumpur, Malaysia. Information: iufroxxi@frim.gov.my. Website: http://frim.gov.my/iufro.html

14-18 August 2000
29th International Geographical Congress
Seoul, Korea. Contact Email: igcseoul@plaza.snu.ac.kr

28 August - 1 September 2000
New Zealand Ecological Society Conference
Hamilton

3-8 September 2000
11th International Biotechnology Symposium and Exhibition
Berlin, Germany. Contact Fax: (+49-69)-7564201

4-6 September 2000
Evolution and Revolution = C21 Nutrition
Wellington, New Zealand. Contact Dee Armstrong. 04 562 8392 (home) Dee.Armstrong@hvh.co.nz

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This Newsletter was produced by Astrid Dijkgraaf and Jeremy Rolfe.

Contributions for the newsletter – news, views, letters, cartoons, etc. – are welcomed. If possible, please send articles for the newsletter both on disk and in hard copy. 3.5" disks are preferred; MS Word, Word Perfect or ASCII file text, formatted for Macintosh or MS-DOS. Please do not use complex formatting; capital letters, italics, bold, and hard returns only, no spacing between paragraphs. Send disk and hard copy to:

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Next deadline for the newsletter is 10 March 2000.

Unless indicated otherwise, the views expressed in this Newsletter are not necessarily those of the New Zealand Ecological Society or its Council.

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