

# Ecological Society Newsletter



No. 53, April 1989

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## EDITORIAL

### Rainforests – A Global Problem

There has been a vast number of words written and spoken about global depletion of rainforests. In the main, the only clear result of all the attention has been a continuing loss of forest. The effects are local, with the wholesale eviction of people who have evolved in those habitats and lived in them successfully for eons; they are regional, with the loss of fertility over vast areas of land and with runoff of sediment into streams and other water bodies. They are also global, with climatic impacts hard to predict precisely but probably dramatic.

In this issue of the Newsletter, we present a report on a recent conference in Rotorua, where the problems were discussed and some solutions hinted at. We hope the apparently contradictory statements made by one of the representatives of the Department of Conservation at the gathering are an artefact of the newspaper reports of the event! One article quotes John Halkett – *Politicians and logging companies talk about selective logging of tropical forests but, even after many decades of large-scale experimentation, there is no proof that it is possible to have sustainable selective logging of tropical forests.* Juxtaposed to the article quoting this (Dominion, Monday 20 March) is another one quoting John outlining how New Zealand could show third-world countries low-impact timber-harvesting techniques developed by the New Zealand Forest Service! Many would have doubts about the applicability of New Zealand selective logging techniques to our own forests and soils let alone to those of tropical areas. Despite the apparent confusion, it is good to see the Department of Conservation enter its expertise and influence into the debate on tropical forests. Let's see a consistent

policy for conservation though.

International influence and action will be crucial to the survival of tropical forests. It is therefore encouraging to see that the Ministry for the Environment has created a "Global Issues" Directorate. Responsibilities currently include climate change and ozone depletion. We hope that the international causes and consequences of deforestation will also come under the spotlight. Bold initiatives will be needed. Perhaps New Zealand influence, as with nuclear issues, can have positive effect.

Rod Hay  
Newsletter Editor

## MANAGEMENT STRATEGY

During the last year, the Council has been looking at the way in which the Society works, our aims for ecology, and the way we try to achieve them. In an earlier Newsletter, and at the AGM, we sought your ideas as to what should be considered. To clarify all these ideas we have now drafted a "Management Strategy", which is enclosed with this Newsletter so that members can have further input to the process.

The strategy will provide the Council with guidelines and direction within our Society objectives. It should also enable members and outside bodies to recognise our interest and priorities. Some of the things it discusses have already been actioned, because of appropriate timing or urgency.

Your comments are now very important, if this is to truly reflect the wishes of the whole Society. Please take time to read the report, and send in your comments, by 12 May, to:

Judith Roper-Lindsay,  
Forestry Road, R.D.2, Rangiora

## NEWS FROM CORRESPONDENTS

### WELLINGTON

Welcome to the first in a regular series of reports from strategically placed correspondents around the country. (Readers of *Soil News* will recognise the role model.) We are starting with that well known centre of innovation and creativity, Wellington (yes, including the Hutt Valley). But do not think that we Wellingtonians really believe that New Zealand lies between Cook Strait and the Rimutakas. The editor's net will widen (wall of death?) and you could become press-ganged into becoming your region's correspondent if you don't volunteer first.

We thought it would be useful to start with an analysis of who the Wellington members are. A breakdown of addresses/affiliations from a recent but not completely up-to-date membership list showed the following numbers of members:

Department of Conservation (central and regional) .....	27
Ecology Division, DSIR .....	16
Victoria University .....	9
MAF Fisheries Division .....	7
DSIR Land and Soil Sciences Division, Taita .....	4
Conservation groups .....	4
Botany Division, DSIR, Taita .....	3
DSIR Head Office and SIPC .....	3
DSIR Water Sciences Division .....	2
MAF Wallaceville .....	2
Ministry for the Environment .....	2
Libraries .....	2
Central Institute of Technology, Hutt Valley High School, Ministry of Forestry, Commissioner for the Environment, Royal Society, National Museum, Ports Authority, Upper Hutt City Council .....	1 each
Retired/working at home/affiliation unknown .....	23

This list shows the expected diversity of membership and the expected numbers in institutions traditionally well represented in the Society. But it also shows the alarmingly small number of members from educational institutions, even – relatively speaking – from Victoria University. There is a very significant number from 'water sciences' (MAFFish and DSIR Water Sciences). There is an even larger number of members who are retired, working at home, or not in 'official' institutions. This group includes, of course, unem-

ployed graduates and people made redundant from DOC and DSIR Soil Bureau.

I think that these figures should indicate to the Council, only one of whose members is not employed full-time by the government or a university, that they must always be asking whether the Society is catering to the interests of its entire membership. More on this in the Management Plan and the forthcoming Members' Questionnaire.

Paul Blaschke

Now for some news from "The Big Three" (with thanks to Alison Ballance, Susan Timmins and Fran Hyland for supplying the information):

### Ecology Division DSIR

John and Meg Flux are off at the end of June for a month in Sumatra (en route to the 5th International Theriological Congress in Rome). They hope to visit three montane forest areas in southwest Sumatra where locals have reported that the striped rabbit (*Nesolagus netscheri*) still exists. This rabbit lives in thick forest at 4–6000 ft and is only known from 15 specimens. It was last definitely seen in 1916, with two possible sightings in 1974 and 1978, at places 700 km apart. Since Sumatra is 1790 km long by 435 km wide, it is quite a big haystack to look for a rabbit in. If anyone wants anything else from Sumatra – fancy a posy of *Rafflesia*? – let John and Meg know.

Rod Hay is carrying out research on rock wrens in Northwest Nelson and kakerori in Rarotonga and is working on climate change (hot line to heaven?) and new organisms policies, plus a host of other environmental issues, including Resource Management Law Reform.

Mr Guo Cong from the Changsha Institute of Agricultural Modernisation in Changsha, Hunan Province, The People's Republic of China, is to spend a year working with Mike Fitzgerald on rodent ecology. He will be funded by the People's Republic and Academia Sinica. He wrote: "My work at Changsha Institute of Agricultural Modernization is researching the population dynamics and behaviour of *Rattus norvegicus* and *Apodemus agrarius*. Further, we try to find a way to predict their numbers and to control them. So, I want to increase my knowledge about population or behaviours or control of rodents or small mammals".

Mike Meads, Alison Ballance, Rod Hay and Richard Toft have been searching for giant wetas in Northwest Nelson, with success at two out of three localities checked. A tentative diagnosis puts the

species as probably widely distributed in Northwest Nelson but not always easy to find.

Murray Efford has begun a population study of the land snail *Wainuia urnula* in the Wellington area.

Mike Daniel is writing up research on the mating behaviour of short-tailed bats on Codfish Island.

Tony Whitaker, Bruce Thomas and Tony Pritchard have just completed the final stages of producing the annotated bibliography of New Zealand lizards.

John Campbell, Mark Hearfield and Peter Notman are resurveying the vegetation plots in the Orongorongo Valley, part of Ecology Division's long-term forest study.

Bob Brockie is working with the National Film Unit on a film about introduced species in New Zealand. Tentatively titled "Go Forth and Multiply", it is aimed at the North American and European markets, and is about all their species which came forth to New Zealand and, of course, multiplied.

Hugh Robertson is continuing his work on tuits at Mohi Bush, Hawke's Bay, and is also following radio-tagged kereru there. He is collaborating with Mick Clout and a number of OSNZ members on recording the timing of kereru display dives throughout New Zealand.

Ray Pierce has been working at Wenderholm Reserve, north of Auckland, tracking radio-tagged kereru, in an extension of Mick Clout's work at Pelorus Bridge near Nelson.

#### Department of Conservation Science and Research

Ross Pickard is busy assisting Alan Ross of Land and Fauna Directorate with the reassessment of submissions for the Monawai Mine on the Coromandel.

Sue Triggs is flat out doing genetic fingerprinting analysis for the blue duck. Sue recently produced an interim report on yellow-eyed penguin genetics. She found that analysis suggests that three distinct populations of these penguins exist. This means that recovery of the South Island penguin numbers will have to be achieved without input from the subantarctic, as migration rates between there and the mainland population are very low.

Ian McFadden is helping Charles Daugherty of Victoria University bleed tuataras for a major tuatara genetic survey being conducted this summer.

Malcolm Harrison has returned from Whale

Island where he has been continuing his population study of the grey petrel (northern muttonbird). Malcolm has observed numbers increasing in recent years after the eradication of rats. He continued to band annually to keep track of the population trends.

Susan Timmins has just returned from a field trip on the West Coast. It is a combined Franz Josef (DOC), Botany Division (DSIR) and Science and Research research project to set up long-term enclosure plots to assess the impact of grazing stock on West Coast forest and swamp.

Harry Keys has been co-ordinating the evaluation of research proposals received from all regions, directorates and other agencies. The proposals have received a priority ranking from the region and also a suggested national priority by the Science and Research Directorate. Meetings have been held with the Land and Fauna, Protected Ecosystems and Species, and Coastal and Marine Directorates to agree on the national priority and proposed action.

Ralph Powlesland is on the Three Kings for eight days, weather permitting. Ralph is assisting the Kaikohe District on a general survey of all wildlife, which then will help to assess the research requirements. While there, they will trap for rats to ensure it is still free of rats. They will also be collecting tissue samples from red-billed gulls, blood from red-crowned parakeets and various samples of wildlife for research purposes.

Rogan Colbourne is off shortly to the Mercury Islands where he will be surveying kiwis and possibly helping bleed tuataras for the national tuatara genetic survey.

#### Victoria University

At the end of 1988, a student Environment Group was formed at Victoria with membership from students at all levels and from all faculties who have an interest in the environment. The group invites speakers to address meetings, and Sean Weaver, a B.Sc. Hons graduate of Victoria, spoke on 15 March about tropical rain forests in Fiji and the potential for a National Park system there.

The group also sees itself as a corps of workers willing to take on small projects. Their first project, due to be carried out in April, is clearing gorse and willow from the surrounds of Lake Pounui in the southwest Wairarapa where the VUW School of Biological Sciences has a field station. This area is used by third-year ecology classes for field work, and also by graduate students for research projects from time to time.

## CONFERENCE REPORT

### Save the Forests – Save the Planet

This was the attention-grabbing title of a seminar held at FRI, Rotorua, in March to arouse concern for the global calamity of tropical forest destruction. Co-sponsored by the Pacific Institute for Resource Management and the Department of Conservation, the gathering of 100 or more environmentalists traced out a strategy for New Zealanders to help stem the destruction. There were key contributions from Peter Bunyard and Edward Goldsmith, both editors of the outspoken environmental journal 'The Ecologist', Alan Millar who teaches environmental ethics at Berkeley, Ian Peter, a global campaigner for tropical forests, and Guy Salmon of the Maruia Society.

The programme first identified the causes of the destruction, with industrial development, resource exploitation, population pressures and translocation of surplus people, and poverty most often quoted. Edward Goldsmith debunked the popular political explanations of population pressure and poverty for causing deforestation. In turn, he suggested indiscriminate allocation of funds for development by, in particular, the World Bank as the primary cause. Much of the world's development aid is disbursed by developed countries to elevate the economies of poorer countries into potential trading partners. More encouraging is the creation of an environmental directorate, with a staff of 60, within the World Bank. Yet, despite this, major schemes are still not effectively, ecologically vetted. Later, there was stimulating debate on questions of land ethics (or lack of), the place of Christianity in instilling an anthropocentric attitude to nature and therefore exploitation, and the need for wealthy nations to lower their dependence on third-world resources.

Several case studies of deforestation were then presented from Sumatra, Sarawak, Fiji, and Colombia. The tragedy of cultural genocide resulting from relocation of tribal peoples following logging was featured in a video clip titled "Blow-pipes and bulldozers". It highlighted the plight of the Penang people of Malaysia and the campaign underway to halt the habitat destruction.

There was the shock, horror statistic that tropical forest the size of a football field is cleared every 3 seconds. There was the realisation that the three 'fat cats' of the western Pacific, Korea, Taiwan, and Japan, have a voracious appetite for

tropical timber, importing over 90% of the world's production. And there was the gloomy concept that at the current rate of deforestation, only minor areas of tropical forest will remain in 60 years.

Jim Salinger showed how loss of tropical forest alters climates at a local level by increasing temperature extremes, by intensifying runoff and by introducing drought through increase evapotranspiration and the drying effects of wind. Tropical forests also play a significant role in global atmospheric circulation, and that the removal of Indonesia's forests may intensify the effects of El Niño summers in the Pacific. On top of all this, tropical forests play a major global role in fixing CO<sub>2</sub>, thereby indirectly counterbalancing the effects of greenhouse warming. Conversely, the wanton burning of Amazonian forests compounds the problem by liberating vast quantities of greenhouse gases.

Several recurrent themes in the debate were:

- the need for self-determination of indigenous peoples, particularly when logging proposals threaten their habitats.
- the need for sensitive input from expatriate conservation campaigners.
- the need for comparatively wealthy countries to transfer wealth or aid to third-world states in the form of compensation payments for conservation initiatives.

Finally, several workshops considered the theme, 'a positive approach for New Zealand' the final outcome of which provided a prescription for concerned individuals and organisations to become positively involved. It is here that ecologists have a major role to play in lobbying activity, and in integrating a strong conservation ethic into international consultancy work on land management. Some useful suggestions to emerge from the workshops were:

- encourage multinational banks to divert aid away from environmentally destructive projects
- encourage reforestation on degraded lands
- encourage the establishment of nature tourism in tropical forests
- help make tropical forest destruction a global issue to be considered in international forums such as the United Nations, Commonwealth Prime Ministers Conferences, etc.
- help non-government organisations in tropical forest conservation initiatives
- promote the formation of legal frameworks to

regulate the activities of multinationals and state-owned companies engaged in deforestation

- avoid consumption of tropical hardwoods
- try to understand the aspirations of affected indigenous people and their governments to ensure 'our' aid programmes are supportable by them

Not that New Zealand has been slow to react to the crisis: the Maruia and Forest and Bird Societies have recently had forest conservation task forces at work in the Pacific basin; Government science agencies are undertaking environmental consultancy, albeit largely in the field of landscape rehabilitation and partly motivated by the dictates of commercial science. Less encouraging was the view of Edward Goldsmith that 'international debt writeoff for conservation' projects have many shortcomings, such as violation of recently established reserves, and the scheme may not be a workable universal panacea for reserve creation.

A further conference dealing with New Zealand's role in helping conserve Pacific basin tropical forests is planned by Forest and Bird and the Maruia Society for August in Auckland.

Geoff Rogers  
Indigenous Forest Management Section  
Forest Research Institute  
Private Bag 3020  
ROTORUA



## THE JOURNAL

### A Letter from the Editor

Firstly, an apology for the lateness of last year's issue. It should have been out before Christmas but was delayed in order to maintain quality, after a couple of problems in the printing of a plate and the binding.

Now to the changes which will signal a new lease of life for the Journal. These are a change to the editorial system, a change to two issues a year, and an upgrading of the Journal's profile through involvement of more international referees and advertising within New Zealand and overseas.

The change to a new editorial system has already begun. We now have an expanded board of eight, each of whom is appointed for two years, has full editorial responsibility and deals directly with authors and referees. One is the Editor-in-Chief, who liaises with printers and takes final responsibility for co-ordination and standards. The likely composition of the Board is Bill Lee, Ralph Allen, John Parkes, Eric Spurr, Gillian Rapson, Mike Fitzgerald, David Towns, and myself as Editor-in-Chief for one more year.

I would like to take the opportunity of thanking John Gibb and Peter Johnson, who stand down from the present Board after considerably more than two years of invaluable support.

The second major change, to two issues a year, will begin in 1990 when the new Board is up and running. Issues will appear in May and November 1990, with deadlines at the beginning of December and June respectively. This year's single issue will appear by October at the latest, but we aim to have it out before this.

Along with two issues a year we are introducing a Forum section for letters to the editor, addressing published material in the Journal or issues of general interest and controversy. So sharpen your pens, and if we have some material we will begin the section in this year's issue.

The move to two issues does involve a cost, and the Council is investigating ways of meeting this with no significant imposition on members. However, such a change is necessary to assure the Journal's future, and offers considerable scope for expansion of pages at little marginal cost.

Nigel Barlow  
EDITOR

## N.Z. ECOLOGICAL SOCIETY / N.Z. SOCIETY OF SOIL SCIENCE JOINT CONFERENCE 1989

### HISTORICAL CHANGES IN NEW ZEALAND ECOSYSTEMS

In 1938, two storms caused major damage in the Gisborne and Hawke's Bay regions. These storms, together with well publicised reports by K.B. Cumberland, V.D. Zotov, and N.H. Taylor, which documented severe land deterioration, provided great impetus to the soil conservation movement in New Zealand, culminating in the passing of the Soil Conservation and Rivers Control Act 1941.

In 1988, Cyclone Bola marked the 50th anniversary of the 1938 storms with very severe damage over a wide area. The same year saw the abolition of the National Soil and Water Conservation Authority and the start of the most ambitious effort yet to reform our resource management legislation. What changes have actually occurred in our physical environment in that time? Equally importantly, what have we learned of, and from, these changes that will assist in present and future resource management?

The symposium chiefly seeks to answer these two questions. Its principal theme is that of recent changes in the major New Zealand ecosystems. The emphasis is on vegetation change and accompanying changes in soil properties and processes, including soil erosion, as well as changes in animal communities. The symposium will span the "written historical" era – not longer than 150 years – but will emphasise the last 50 years or so.

As well as answering the above questions through review papers and case studies, the symposium aims to provide up to date answers to questions such as:

- Is maintenance of forest cover relevant to "management" of erosion rates in New Zealand?
- To what extent have land use and vegetation cover changes resulted in changed rates of erosion?
- Do we have adequate monitoring sites and programmes to study ecological changes and erosion processes in New Zealand?

### CONFERENCE FORMAT

#### 1. *Symposium: Historical Changes in New Zealand Ecosystems*

- Half day of invited papers, setting the scene through historical overviews of vegetation/landscape changes and organisational response to change, quantitative analysis of vegetation changes, and reviews of soil properties and processes under different types of vegetation.
- Full day of contributed papers (15 min + 5 min discussion), organised into major environments: mountainlands, hill country, plains and downlands, and "other" (offshore islands, wetlands, sand country, urban, etc). Please formulate papers to fit into this framework if possible. Papers will be selected principally on basis of interest to the combined societies.
- Four alternative full-day field trips will continue the symposium theme. Each will concentrate on recent changes in one of the environments listed above. Two will partially follow the routes of the 1958/9 N.Z. Ecological Society / NZSSS field trips.
- A plenary workshop will consider the combined effects of Resource Law Management Reform and local/regional government reform. The panel will include speakers from the Ministry for the Environment and regional authorities.

2. *General Contributed Papers* (15 min + 5 min discussion): Two half days. No restriction on topic. At least two concurrent streams for most sessions. However, plenary session(s) are planned for contributed papers of mutual interest to both ecological and soil science streams.

3. *Invited Lectures*: The Norman Taylor Memorial Lecture and the N.Z. Ecological Society Presidential Address will be delivered.

4. *Displays*: No formal poster session is planned, but displays are welcomed. They may be particularly suitable for long-term photographic records or monitoring results relevant to symposium theme. Please contact the conference organisers if you wish to submit display material.

**DATES:** Monday, 21 August (afternoon) to Friday, 25 August (ending midday).

**VENUE:** Central Institute of Technology, Trentham (accommodation on campus).

**APPROXIMATE COSTS:**

Registration \$45  
(reductions for students, and day attendance)  
Accommodation: \$50/day  
Field trip: \$30

Useful background reading:

O'Loughlin, C.L.; Owens, I.F. 1987: Our dynamic environment. *In*: Holland, P.G.; Johnston, W.B. (Eds) "Southern approaches: geography in New Zealand", pp. 59-90. Christchurch, New Zealand Geographical Society.

### NOTICE OF INTENT

Registration forms will be sent with the June newsletter. However, please assist us by returning this Notice of Intent by 19 May, **whether submitting a paper or not.** (A photocopy will do.)

Name: \_\_\_\_\_ Contact Address: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

I am intending to come to the conference:

I will need accommodation at CIT:

I intend to submit a paper: for the symposium  for the general sessions

I intend to go on a field trip: Orongorongo Range  Waikanae-Otaki   
Hutt Hills  Hutt Valley-Pukerua Bay

#### PAPER SUBMITTED

Name(s) of author(s): \_\_\_\_\_

Title of paper: \_\_\_\_\_

#### ABSTRACTS

All participants intending to give paper(s) must supply abstract(s) with the Notice of Intent. These should occupy no more than half an A4 side, including, title, author(s) and affiliation(s). Please attach abstract(s) to this form; if presenting abstracts for both the symposium and general sessions, please indicate on the back in pencil which sessions they are for.

#### DEADLINE

Please return Notice of Intent and Abstracts by **19 May** to:  
R. Lee or P. Blaschke  
Division of Land and Soil Sciences, DSIR  
Private Bag  
LOWER HUTT

## Councillors of the New Zealand Ecological Society 1988/89

**Murray Willams**  
*President; Royal Society representative*  
 Science Directorate,  
 Department of Conservation,  
 PO Box 10-420, Wellington.  
 phone (04) 710-726: fax (04) 713-279

**Judith Roper-Lindsay**  
*Vice President; Management strategy*  
 Forestry Road,  
 RD2, Ashley,  
 Rangiora  
 phone (03) 799-119: fax (03) 657-539

**Ken Hughey**  
*Secretary*  
 Department of Conservation,  
 Canterbury Regional Office  
 Private Bag, Christchurch  
 phone (03) 799-758: fax (03) 654-508

**Nigel McCarter**  
*Treasurer*  
 MAFFish,  
 PO Box 951, Rotorua  
 phone (073) 479-579

**Nigel Barlow**  
*Editor*  
 MAFTech,  
 PO Box 1654, Palmerston North  
 phone (063) 61-911

**Paul Blaschke**  
*Conference 89*  
 Divn of Land & Soil Science, DSIR,  
 Private Bag, Taita  
 phone (04) 673-119: fax (04) 673-114

**Gavin Daly**  
*Education*  
 Plant Science Department,  
 Lincoln College,  
 PO Box 56, Lincoln, Canterbury  
 phone (03) 252-811

**Mark Davis**  
*Legislation*  
 Department of Conservation,  
 Canterbury Regional Office,  
 Private Bag, Christchurch  
 phone (03) 799-758: fax (03) 654-508

**Vicky Froude**  
*Legislation*  
 Department of Conservation,  
 Eastern Regional Office,  
 PO Box 1146, Rotorua  
 phone (073) 479-179: fax (073) 479-115

**Bill Lee**  
*Awards*  
 Botany Division, DSIR,  
 Private Bag, Dunedin  
 phone (024) 774-052: fax (024) 775-232

**David Norton**  
*Management strategy*  
 School of Forestry,  
 University of Canterbury,  
 Private Bag, Christchurch  
 phone (03) 667-001: fax (03) 642-999

**Murray Potter**  
*Membership directory*  
 Zoology Department,  
 Massey University,  
 Palmerston North  
 fax (063) 505-601

**Susan Timmins**  
*Action group*  
 Science Directorate,  
 Department of Conservation  
 PO Box 10-420, Wellington  
 phone (04) 858939: fax (04) 713-279

**Carol West**  
*Action group, Conference 89*  
 DSIR Publishing,  
 PO Box 9741, Wellington  
 phone (04) 858-939: fax (04) 850-631

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