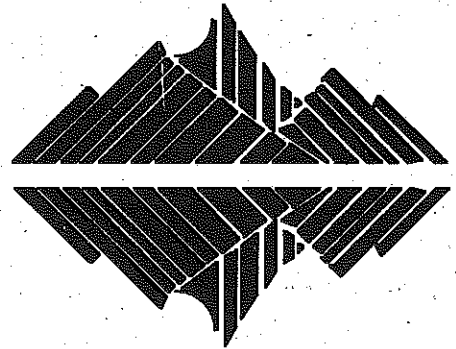


# Ecological Society Newsletter



No. 68, December 1992

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P.O. Box 25-178, Christchurch

## NORTHERN PORIRUA MARINE RESERVE SOCIETY

The principle object of this society is the establishment of a marine reserve on the northern Porirua coast. Other objects are to promote coastal conservation, education and scientific research. The society will pursue the following objectives: to work with the tangata whenua and assist them to achieve their aspirations in relation to the coast, and ensure coastal development is done in a manner consistent with the Treaty of Waitangi; to work with user groups including recreational and commercial fishers and dive clubs, to ensure their needs are adequately met; to support universities, schools, Crown Research Institutes and others, who wish to undertake scientific research on the coast, and, if necessary, to co-ordinate that research; to assist educational institutions and individuals who want to learn about coastal ecology; to raise funds and spend these funds on a variety of projects that will further the objects of the Society; to provide a forum for members to

## IMPORTANT NOTICE TO ALL ECOLOGICAL SOCIETY MEMBERS

Many members have new postal addresses following the establishment of CRI's. Please send your correct address to the Treasurer, NZ Ecological Society, P O Box 25 178, Christchurch. Please use your work place address where possible to save the Society postage.

NAME: .....

ADDRESS: .....

.....  
.....

discuss ecology and the management of the coast; to promote good fellowship and social activity among the members; to work with government departments which have responsibility for the coast, including the Department of Conservation and the Ministry of Agriculture and Fisheries; to work with local and regional authorities which have responsibilities for the coast, including the Wellington Regional Council, the Porirua City Council and the Kapiti Coast District Council.

Membership of the Society is open to everyone interested in the management and conservation of the coast, for a fee of \$2.00 per year to cover postage. There is also provision for corporate membership.

To join or obtain further information on the marine reserve proposal, please contact:

Pauline Hellyer,  
telephone 0-4-239 9340.

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## CANOPY DIEBACK IN WESTLAND SOUTHERN RATA-KAMAHI FORESTS AND POSSUM CONTROL STRATEGIES

In the latest issue of the New Zealand Journal of Ecology, Rose, Pekelharing and Platt (1992) published a paper documenting the magnitude of canopy dieback in central and south Westland southern rata-kamaha forests. They show that at least 20% of all canopy trees, predominantly southern rata, are dead, and suggest that only 11% of the forests have canopies that can be classified as unmodified. They attribute the dieback to browsing by brush-tailed possums.

This article provides valuable resource information for the Department of Conservation to use in managing the West Coast conservation estate, although the use of 1984/85 aerial photos means that the observed patterns are already 7-8 years out of date. However, the authors go on in the discussion to comment on the implications of their findings for conservation. It is unfortunate that, in what is an otherwise useful article, they make a number of inaccurate comments concerning current possum control actions on the West Coast in this concluding section.

The authors state that "Our survey highlights the urgent need to develop and implement a coordinated conservation strategy (for possums) for the central Westland rata-kamaha forests". Unfortunately Rose et al. appear to be unaware that the Department of Conservation does have a West Coast Conservancy possum control strategy (James 1990). This strategy sets out the objectives and means by which possums are to be controlled on the West Coast. Many of the comments made by Rose et al. (eg, on the need for repeated control and monitoring) are clearly outlined in this strategy.

Possum control on the conservation estate is funded through a special grant (\$3.1 million nationally for 1992/93). Because research has indicated that limited possum control is unlikely to have any real benefits for vegetation or the indigenous animals dependent on that vegetation, the approach taken nationally has been to select specific areas for long-term possum control, rather than try to cover the whole country. The goal in control areas is to hold possum numbers to as close to zero as possible in perpetuity. Monitoring is an integral part of this.

Selection of control areas is based on a number of criteria (the main ones being floristic and faunistic

values) using a ranking system developed by John Parkes, with control being given to areas that score highest. Because funding is limited, not all areas can be controlled. However, as possum numbers are reduced in the initial control areas, further areas will be included so long as there is sufficient funding to maintain possum numbers close to zero in all areas.

On the West Coast four areas were initially chosen for control, including two in southern rata-kamaha forests (Oira-Deception and Copeland). The other two control areas are in silver beech forest with significant mistletoe populations (Moeraki) and coastal northern rata forests (Paparoa). It is planned to instigate control operations in one further area in the next year, plus maintain the earlier controls.

The Department of Conservation is very appreciative of the research work undertaken by Landcare Research scientists on possums and forest health (often DoC funded), but is concerned when articles describing this work make incorrect and misleading comments on conservation policy. As with all aspects of science, it is important to ensure that all comments are accurate.

### References

- James, I.L. 1990. *A Strategy for Possum Control on the West Coast Conservation Estate, 1990-1995*. Department of Conservation, Hokitika.
- Rose, A B; Pekelharing, C J; Platt, K H. 1992. Magnitude of canopy dieback and implications for conservation of southern rata-kamaha (*Metrosideros umbellata* - *Weinmannia racemosa*) forests, central Westland, New Zealand. *New Zealand Journal of Ecology* 16, 23-32.

Murray Reedy  
Manager, Protection/Use,  
Department of Conservation,  
West Coast Conservancy.

## NEW EDITOR FOR NEW ZEALAND JOURNAL OF BOTANY

Fran Kell (formerly Fran Hyland) has become the new scientific editor of the NZJ Botany. She replaces Carol West who has joined DOC Science and Research Division, working in Susari Timmins's job while she is on Maternity leave, having recently had a son.

Editor.

## BEYOND THE BUILT ENVIRONMENT

A workshop entitled "Beyond the Built Environment", was held in Wellington recently, convened by the Wellington Nelson-Marlborough Branch of the NZ Planning Institute, in association with the Department of Conservation and Ministry for the Environment. The workshop was sub-titled "Management of natural resources under the Resource Management Act".

Section 6. of the Resource Management Act 1991 is about "Matters of National Importance", and covers several areas of interest to ecologists. For example:

"b. The protection of outstanding natural features and landscapes from inappropriate subdivision, use and development:

c. The protection of areas of significant indigenous vegetation and significant habitats of indigenous fauna:"

In a session on "Determining 'Significance'" Judith Roper-Lindsay gave an overview of ecological perspectives covering some of the things which are significant to ecologists. These included species, sites, habitats, ecosystems, ecological processes and other values. She recommended that standards should remain flexible because significance can change with circumstances and increased scientific understanding.

Following Judith, I spoke on sources of scientific information about places of ecological significance which are available to local authority planners, mainly from the Department of Conservation. Other subjects covered included methods of achieving protection, preparing a regional coastal policy statement, studies of the Pencarrow and Wellington South coasts, and Wellington Forest and Bird's "Natural Wellington" project.

I was encouraged by the realisation that the new legislation is now requiring local governments to work towards protection of ecologically significant areas within their district plans and this is emphasising the need for the type of information yielded by surveys under the Protected Natural Areas Programme.

Mary McEwen

## INDEX DATABASE - A DATABASE OF DATABASES

The Information Services Unit of the Science and Research Division, Department of Conservation, has developed a computerised INDEX to allow quicker access to (and wider use of) a range of information sources held by the Division. The common denominator for the databases included in the INDEX database is their geographic data i.e. geographic and location information, usually in the form of grid references and ecological district (or region). A user may enquire what information the Division holds for a particular area of New Zealand, (for example an area requiring environmental investigations for floodplain management planning) and INDEX will extract records from a range of other databases including Sites of Special Wildlife Interest (SSWI), Wetlands of Ecological and Representative Importance (WERI), the Geopreservation Inventory, databases of the distribution of amphibians and reptiles, blue duck, kea, kaka and falcon, fresh water fish, threatened plants. Other databases with information on INDEX include the Northern Islands Register, Offshore Islands Database, Biological Survey of Reserves and certain bibliographic information.

Queries are made to the database through either metric or imperial grid reference input, or through selection of a graphically displayed area of the user's interest. Fields in the database are:

|                     |  |
|---------------------|--|
| Site Name           | Grid reference<br>(metric or imperial) |
| Area (ha)           | Brief description                      |
| Ecological District | District Boundaries                    |
| DOC Conservancy     | Database holding records               |

Results of queries are given as a report and/or map which may be printed.

INDEX allows the user to discover any sites, species records or bibliographic information recorded in the system within the study area or area of interest. With this information, the user can then ask for more detailed information from the managers of the individual databases, such as SSWI, WERI, Geopreservation Inventory etc.

Nina Swift (Department of Conservation)  
and Mary McEwen

## PREDATOR WORKSHOP

### Rabbit and Land Management Programme

Article summarised from newsletter produced by the Semi-Arid Lands Research Team based in Alexandra.

A workshop for all interested parties was held at Haldon Station in the Mackenzie Basin in early 1992, to help coordinate all current predator research and management efforts.

#### Workshop Summary

- Predators kill more than half of all rabbits born in the semi-arid areas, before they reach maturity. This helps the conservation of the tussock ecosystem and agricultural production.
  - A high proportion of ferrets in the Mackenzie Basin are infected with Tb, and may be transmitting it to livestock.
  - Predators (wild cats and ferrets) eat and may endanger some native animals, including lizards and black stilts.
  - In the high country of the South Island there is conflict between the aims of managing predators for these three different reasons:
    - Conserving species and protecting stock from Tb may require as few predators as possible.
    - Conserving the tussock grassland area and maintaining agricultural production mean there are advantages in balancing some predators with a small number of rabbits.
    - Maintaining a low number of rabbits requires the continual and costly application of vintage control technology, or the introduction of an additional mortality agent.
  - Because of these three different aims of predator management, a number of different groups are researching similar aspects of predator ecology. However, to date there has been little integration of their research findings.
- The workshop attempted to determine
- (i) what predator research was most urgent, and who would do it; and
  - (ii) integrate predator management policies.
- Major issues covered were
- (1) Conservation - including both species conservation and ecosystem/landscape conservation;
  - (2) Animal health - the role of predators as vectors of Tb for livestock must be investigated urgently. Predators have the potential to be a very serious threat to animal health.
  - (3) Rabbit killing - in a recent study in North Canterbury predators killed between 35 and 50% of rabbits before they were old enough to leave the nest. It is not predator numbers alone which are important, but the ratio of predators to rabbits.

One of the most obvious outcomes of the workshop is the acknowledgement of the amount of research that is required before predators can really be managed satisfactorily.

Key information gaps which must be filled include:

- What determines the number of predators in any given area?
- What determines which species of predator are present?
- What role does rabbit density play in determining predator numbers and types?
- Besides rabbits, what do predators eat?
- What happens to predator numbers after a successful, large-scale rabbit poisoning operation?
- Would the introduction of myxomatosis affect predators in the same way poisoning does?
- What causes predators to travel large distances?
- Can predators with Tb transmit disease to stock?
- How can the ratio of predators to rabbits be enhanced?
- Can predators be controlled in tandem with rabbits?
- Should we regard all predator species in the same light?
- What effect do predators have on game birds?
- What is the public's attitude to predators.

## MINISTRY FOR THE ENVIRONMENT MEETING WITH PROFESSIONAL BODIES.

Roger Blakeley, Secretary for the Environment, holds regular, bi-monthly meetings with representatives of a number of professional organisations. The New Zealand Ecological Society has been added to the list of organisations included and Mary McEwen attended the December meeting on behalf of President, John Parkes.

The purpose of the meetings is:

- a to help keep professional planning bodies and local government up to date with resource management and environmental policy developments;
- b to promote an exchange of ideas and encourage good communication between the Ministry and resource management and planning professionals; and
- c to provide opportunities for professional bodies to feed ideas into the Ministerial and Government environmental policy development process.

On the December agenda:

- 1 Agenda 21 Implementation
- 2 Supply and Demand Interactions in New Zealand's Energy markets
- 3 Hazardous Waste Disposal
- 4 NZ Coastal Policy Statement
- 5 Indigenous Forestry Amendment Bill
- 6 National Conference of NZ Association of Resource Management 1993
- 7 Future of West Coast Regional Council
- 8 Resource Management Amendment Bill

The Ecological Society is invited to nominate items for the agenda of the next meeting, to be held on 11 February 1993. Some possible items are the Society's statement on sustainability (to promote its use), and the proposed workshop on "bioindicators". Send your ideas to John Parkes.

## NEW ZEALAND ENERGY INFORMATION HANDBOOK – 1992

A new publication is available from Taylor Baines and Associates. A major goal underpinning this publication is to contribute to an authoritative energy information base as broadly as possible around the country and in the public domain. Energy policy issues are growing in importance again, and the need for shared information has never been greater.

As a group that has recognised environmental concerns, we believe that members of the New Zealand Ecological Society may be interested in a copy of this publication. It will give you instant access to a large amount of information relevant to energy and environmental issues of the day, including:  
units and energy conversion factors;  
physical data on:

electricity supply capacity, conversion efficiencies, coal and coal-derived fuels, natural gas fuels, petroleum fuels, CO2 emission factors, geothermal energy production, wood fuels, gasoline substitutes, diesel substitutes, biogas and landfill gas, industrial fuel gases, manufactured gas, energy in solid wastes, solar energy and wind energy.

This publication is A5 size; spiral bound to lie flat when open; fully indexed for ease of referencing.

### Price including GST @ 12.5% as follows:

|                   |                    |
|-------------------|--------------------|
| Single copy       | \$48 ea (plus p&p) |
| 5-9 copies        | \$43 ea (plus p&p) |
| 10 or more copies | \$36 ea (plus p&p) |

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## ISLAND CARE IN AUCKLAND

A Clean-Up of marine debris on Hauraki Gulf island beaches was held on Sunday 27 September 1992 organised by Island Care.

Island Care is a voluntary environmental venture which co-ordinates the activities of groups and individuals interested in carrying out ongoing marine debris clean-ups and surveys of the Hauraki Gulf island foreshores. Island Care is working towards the enhancement and conservation of the physical environment. It has set up a preliminary information database on the types and distribution of marine debris found in the Gulf over the past three years.

In collaboration with the September Clean-Up, Island Care also took part in an International Clean-Up held by the Marine Centre for Conservation, Washington DC. The New Zealand group provides survey information to the US Centre and will also have access to a world database which will hold valuable information for future planning and prevention relating to types of marine debris (including some which NZ has not yet encountered!) and its effects on the environment throughout the world. This will be a 'first' for New Zealand.

Island Care promotes public awareness, education, and citizen involvement; supports domestic and international programmes. The project continues to make the public aware of the rubbish problem in Auckland and offers a practical way in which people can help to maintain and enhance the environment of the Hauraki Gulf. It also provides independent information to planning authorities about the nature of the rubbish problem in the Gulf.

Island Care has successfully set in place a Marine Debris Network which is a gathering together and sharing of information of the different Government Departments and other organisations with concerns for "rubbish and the environment".

The objectives are:

- to facilitate the flow of information between individuals who share concern about marine debris.
- to bring together individuals and organisations involved in marine debris and the environment and
- to share a common interest in protecting the environment, and to ensure that a network is established to allow access to all available information in trying to achieve a common goal.

Task Force Green, a Government unemployment agency, has offered to pay an unemployed person with research and administrative skills to work for Island Care for six months.

Island Care is now moving into its second stage, the first having been to clean and survey the inner Gulf Islands over a period of four years. A report has been written on the 1989-90 surveys and after the September clean-up a further report will be written covering the types and distribution of rubbish over the four year period. The Task Force Green worker will research areas in metropolitan Auckland, storm water drains, etc. to assist Island Care to discover the source of the majority of debris. It is thought that packaging should be targeted because it is the cause of much debris.

If you would like a copy of the Island Care report write to Gael Arnold-Johnson, C/-Geography Department, Auckland University.

Richard Serra, Auckland University.

## NEW ZEALAND NATIVE PLANTS COURSE – NGA URI A TANE MAHUTA.

The Open Polytechnic  
of New Zealand

Two years ago Judith Roper-Lindsay, on behalf of the New Zealand Ecological Society, made a written submission to The Open Polytechnic of New Zealand (TOPNZ) on an early draft of a native plants course that was being established. The course, now completed, was launched in early November and appears to be a huge success - over 130 students have already enrolled.

The apparent success of the New Zealand Native Plants course, Nga uri a Tane Mahuta, is not surprising given the widespread interest in New Zealand native vegetation. However, a large part of its success has to be attributed to the way the course material has been assembled and presented. It has a practical emphasis and is geared to the individual finding out about the native vegetation in their area, and taking action. However, the material has been carefully crafted so that the practical actions are understood in their ecological and cultural contexts.

Bruce Treeby, a tutor at TOPNZ, was responsible for all facets of the course structure and preparation of the course material. Ideas, information and material has been drawn from widespread sources throughout the country and many agencies, organisations and individuals consulted. In doing this TOPNZ has produced something that readers of all ages, backgrounds and experience can understand and use.

The comprehensive course material is divided into eight units and comes in two specially produced sturdy A4 ring binders. The material progresses from the importance and vulnerability of our unique native vegetation and its ecology (units 1 and 2) through to mechanisms for protection (unit 3), and propagation, planting and revegetation (units 4 and 5). Use of native plants and their importance in creating local and regional landscape character and how they can be used in landscape planning to create corridors of open space and for wildlife are covered in unit 6, and unit 7 discusses the way in which native plants have been used and their cultural importance to Maori.

The Information Unit (number 8) contains details on the course background and structure and also an index on plant and bird names, sources of information under various headings for easy reference, and a glossary. It also contains master copies of a series of record sheets (noting plant food sources for birds, plant observation sheets, propagation sheets, forest duff records, revegetation records, pest problems and sources of plant propagation materials). The concept of these record sheets, recording personal observations of native plants and processes, is a cornerstone of the native plants course. The course provides the overview, the context and where to get information, but it is geared to the individual discovering

and finding out themselves and then using this information in a practical and applied way.

A great deal of thought has gone into the composition of the material which results in it being very accessible and attractive. The text is clear and readable for the lay person and the prolific illustrations - hundreds of black and white photographs, as well as many reproductions of artist the late John L. Moore's fine woodcuts, all help to make the course material easy to follow and a delight to read.

Yet it is not only the use of the extensive illustrations that make it accessible but its carefully constructed layout with each topic arranged under clear headings, sub-headings, lists of key points and easy to follow cross referencing.

Ecological Society members should find the course material useful when dealing with lay audiences and schools, etc. Incidentally Judith Roper-Lindsay's comments were incorporated and as a result the course also stresses the connection between plants, animals and the environment and it also focuses on native vegetation despite native plants being used in the title.

At \$150.00 (or \$75.00 with study right) the course is excellent value. However, the fact that it has been designed as a TOPNZ course and available only through them rather than being able to be bought as a reference text may deter some people; it also may limit its distribution. This would be unfortunate because its real success will be when every school has sets of the material as part of their teaching programme and well thumbed copies are found in households throughout New Zealand.

Boyden Evans

## MEMBERSHIP

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

### Types of Membership and Subscription Rates (1992/93)

Full (receive journal and newsletter) .....\$45 per annum  
Unwaged (with journal) .....\$20 per annum  
Unwaged (newsletter only) .....\$20 per annum  
Unwaged membership is available only on application to Council for full-time students, retired persons etc.  
Unwaged members may receive the journal but must specifically request it.

Joint .....\$45 per annum  
Joint members get one copy of the journal and newsletter to one address.

School .....\$12 per annum

Educational institutions may receive the newsletter at the cost of production to stay in touch with Society activities. By application to Council.

There are also Institutional Rates for libraries, government departments etc.

For more details on membership please write to NZ Ecological Society, PO Box 25 178, Christchurch, NZ

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*Education Working Group*  
position vacant

This Newsletter was produced by Mary McEwen and Jeremy Rolfe. Duncan Cunningham organised the mailing out.

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. Disk can be any size; 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:

Mary McEwen  
12 Tisdall St  
Karori  
Wellington  
Phone/Fax 0-4-476 6163

The deadline for the next issue is 1 March 1993

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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### HAWKWEED PROCEEDINGS: PUBLICATION

Get it while it's hot! Proceedings from the October 1991 hawkweed workshop are now available. *Vegetation change in tussock grasslands with emphasis on hawkweeds* NZ Ecological Society Occasional Publication No. 2, is in similar format to the previous occasional publication *Managing the New Zealand Natural Estate*.

The publication includes 25 papers, summaries of discussions and workshop sessions, and a comprehensive bibliography. Many aspects of the hawkweed debate are addressed and future research requirements are summarised.

Copies of the proceedings cost:  
\$15 for workshop participants and/or NZ Ecol. Soc. members  
\$20 for non-members and institutions,  
and can be ordered with payment, from Di Robertson,  
Landcorp, PO Box 142, Christchurch. Please make cheques payable to NZ Ecological Society (Inc.)

### NETWORK OF INDEPENDENT ECOLOGISTS

A group of 15 ecologists and resource managers, employed in consultancy and contract work, met during the Christchurch conference and decided to form a network to exchange information and assistance. Topics discussed were contracts, peer review, editorial assistance, confidentiality of information. We also decided to produce a newsletter with the first issue listing names and addresses of participants, and a brief outline of areas of expertise.

Those interested in joining the network should contact  
Jim Jolly  
PO Box 29-035  
Ngaio  
WELLINGTON

giving name, address, one-paragraph resumé, and \$10 to cover costs of postage and newsletter.

Jim Jolly