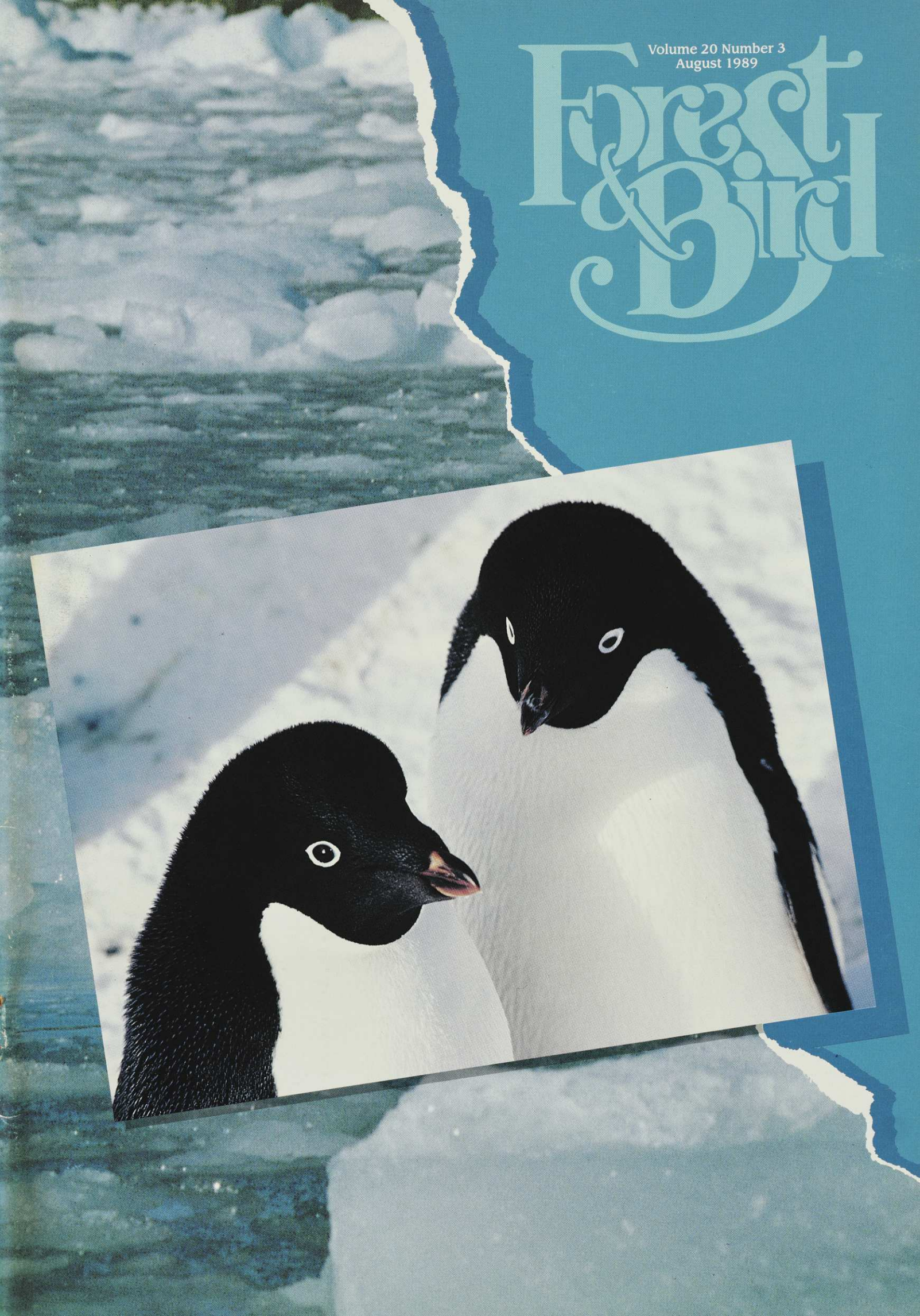
Volume 20 Number 3
August 1989

# Forest & Bird



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Front Cover: *When the* Exxon Valdez *spilled its deadly cargo of oil into the seas around Alaska, there were fortunately no penguins to threaten, although other precious wildlife suffered. In Antarctica the consequences of a similar oil spill would be horrendous for penguins like these Adelie which live in their millions around the shores of coastal Antarctica and on many Antarctic islands. An article on page 18 outlines why the Antarctic Minerals Convention will not protect these spectacular animals.* Photo: Alan Hemmings

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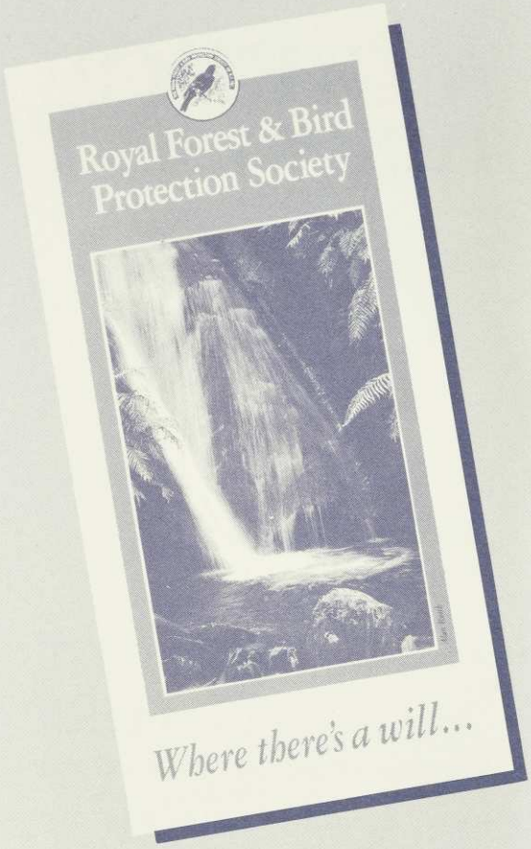


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Issue Number 253
August 1989
Volume 20 Number 3

# Forest & Bird

## Conservation East and West

Japan presents us with a huge paradox.

Ask a Japanese about the Japanese attitude towards nature and you might unlock a tantalizing picture – of pilgrimages to see cherry blossoms in spring, of the reverence for wild inherent in Shinto, of nature reflected in poetry, songs, paintings and dances.

Despite a massive population (120 million) crowded onto islands only a third larger again than New Zealand, Japan has an abundance of species: 130 mammals, over 500 different birds, 50 amphibians, 76 reptiles and around 100,000 species of insects. 70 percent of the country's land area is covered in forest, 40 percent of that plantations. These forests support more than 6000 plant species.

Contrast that picture with the international denigration that is now being poured onto Japan. "Eco-outlaw", "eco-terrorist", and "eco-predator" are just a few of the less than flattering terms being applied to this enormously wealthy nation as it devours up many of the world's priceless resources. Drift netting, tropical rainforest destruction, the possible extinction of the wild African elephant (its ivory is made into chopsticks) – much of the blame for these ecological catastrophes can be laid at Japan's door.

The Royal Forest and Bird Protection Society joins in this general condemnation. In this quarter's mail order catalogue you will find an advertisement for a new poster aimed directly at Japan for the way in which it is ransacking our native forests for woodchips. However, we would be hypocrites if we concentrated our attack solely on the Japanese. They may be welcome buyers, but New Zealanders are ready sellers.

Two woodchip mills taking timber out of private forest around Nelson and Marlborough, and Southland, are involved in the export trade. For too long the companies which own the mills - one of them Newmans which purports to show travellers "beautiful New Zealand" – have shown disregard for the ecological vandalism they are causing. Ominously, there is a prospect of a third woodchip mill starting on the West Coast, stronghold of our native forests.

The Labour Government, which has had up until now an excellent environmental record (Antarctica and the woodchip trade are two major blots on their copybook), has it in its power to stop the export of native woodchips overnight. It should be a simple decision. The majority of the public would fully support it.

We hope that Forest and Bird members will get behind this campaign, which we see as the largest forest campaign in the next few months. Your support will be vital, as it always has been.

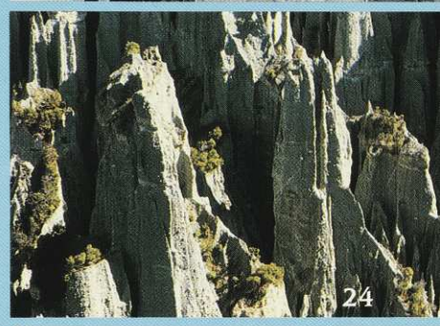
Such actions, small though they may be on a global scale, could awaken the consciences of Japanese to what they are doing. Incredibly, there are only 17,000 members in Japan's largest conservation organisation, the Wild Bird Society of Japan. However, the Japanese have shown an ability to excel in whatever path they choose to follow. It may well be that, once they set their hearts on conservation, they could one day set an example for the rest of the world to try and emulate.

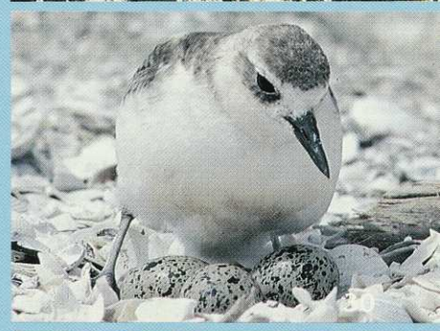
**Gerard Hutching**

## C·O·N·T·E·N·T·S

### Articles





### Departments



Journal of the Royal Forest & Bird Protection Society of New Zealand Inc.

ISSN 0015-7384

Forest & Bird is published quarterly by the Royal Forest & Bird Protection Society of New Zealand Inc.

Society's aims: to protect New Zealand's native species, natural ecosystems and landscapes and promote an appreciation of these.

The Royal Forest & Bird Protection Society is a member of the International Union for the Protection of Nature and Natural Resources (IUCN) and the International Council for Bird Preservation (ICBP).

Head Office: Seventh Floor, Central House, 26 Brandon Street, Wellington.

Postal address: P.O. Box 631, Wellington

Editor: Gerard Hutching.

Registered at P.O. Headquarters Wellington as a magazine.

Design & Production: Creative Services Ltd
Typesetting: Computype Ltd
Photoprocess: Spectrascan Studios Ltd
Printing: Lithographic Services Ltd

# Does New Zealand Have Any Native Spiders?

New Zealand animals have always been a great source of discovery to naturalists both at home and abroad. The continuing struggle for the protection of native habitat and animals is constantly in our newspapers and on our television screens. But is it possible that the media portrait of New Zealand wildlife, although painted by compassionate and well meaning artists, is somewhat biased?

On deciding upon a topic for a conservation essay at post-graduate level, I found I was limited in my choice of focal animal. There was an abundance of literature available on a few animal groups such as endangered birds and to a lesser extent on some popular marine animals but there was a definite paucity of information on anything else.

I initially questioned my assumption that New Zealand was also home to a variety of native spiders and insects and thought perhaps our native land invertebrates were unworthy of attention. My particular interest were New Zealand spiders and what I was intrigued to discover was that there is an estimated 2,500 species of native spiders of which less than 750 species have been named and described.

So why is published information on New Zealand spiders so hard to come by? Perhaps our collection of spiders is rather boring, merely a compilation of internationally common species? On the contrary, New Zealand has a unique and fascinating spider fauna – incomparable to that found anywhere else in the world (see *New Zealand spiders: An introduction*. Forster, 1973) We have an unusually high proportion of primitive species and an extraordinary adaptive radiation from a few source groups. Many of our spiders are incredibly beautiful and a delight to observe.

These revelations led me to question my own concept of the New Zealand fauna. A rather focused approach by the media to stimulate public sympathy and awareness of conservation issues may have overemphasised some animal groups at the expense of others.

Trite planiceps *(family Salticidae), this small jumping spider is commonly found in shrubs in the North Island and warmer areas of the South Island.*

To illustrate the nature of this problem I designed a simple survey of 10 questions about New Zealand native animals. The subjects for this study were 100 students at Canterbury University. The students were randomly chosen, the only prerequisite being that they were New Zealanders born and bred. The questions were designed to investigate how students conceptualise the New Zealand native fauna.

As the results show, students at Canterbury University have an unrealistic concept of the New Zealand wildlife. Many students were unaware that New Zealand is the only home of a number of unusual insects and, sadly, some questioned the very existence of native spiders. It was discouraging to find that students were on average not particularly interested in discovering native insects. Some respondents went as far as to comment that they actively try to avoid them! Neither did students value the ability to identify anything they might accidentally find, unless it has feathers. The native bird species most commonly known by students are predictable. Unfortunately the only endemic spider known to students is also the only poisonous one and although attractive is seldom seen.

What then are we to think about public awareness of native wildlife in New Zealand ? Perhaps the students I surveyed are less exposed to information about native wildlife than the general public. I think not.

The retreating forest and bush takes to its death not only a few bird species but a host of less conspicuous but by no means less important small creatures. Introduced animals prey upon and compete with the native vertebrates. Indiscriminate use of pesticides in our water systems and sprayed upon our land has a negative impact on many species of native animals – big and small.

The indigenous landscape is home to many animals, not just a few birds. Let's widen our horizons and discover some of the facts about the environment in which we live and most importantly let's share them with others in a more realistic portrayal of what it is we are fighting to protect – the whole ecosystem.

**Karen Bowden**

The survey given to 100 Canterbury University students. Where appropriate the correct answer is marked with an asterisk. The responses are given below the questions and the most common response **highlighted.**

1. Does New Zealand have an unusual collection of native birds?
   Y*/N/DON'T KNOW
   (**100**/0/0)

2. Does New Zealand have an unusual collection of native insects?
   Y*/N/DON'T KNOW
   (**60**/26/14)

3. Are any New Zealand bird species endangered?
   Y*/N/DON'T KNOW
   (**98**/2/0)
   if so, how many? (circle the closest approximate answer.)
   5 10 20* 50
   (16 **37** 28 19)

4. Are any New Zealand insect species endangered?
   Y*/N/DON'T KNOW
   (28/13/**59**)
   if so, how many? (circle the closest approximate answer)
   5 10 20 50*
   (**16** 10 2 0)

5. How many species of birds live in New Zealand and nowhere else?
   circle the closest approximate answer.
   0 10 20 100* 500 1000
   (16 14 19 **36** 15)

6. How many species of spider live in New Zealand and nowhere else?
   circle the closest approximate answer.
   0 10 20 100 500 1000*
   (16 **38** 26 13 45 2)

7. When tramping or camping do you look for native birds?
   Y/N
   (**75**/25)

8. When tramping or camping do you look for native insects?
   Y/N
   (19/**81**)

9. Do you know the common names of any native birds?
   Y/N
   (**86**/14)
   Please list: average # listed by an individual; **6.15**
   The species most commonly named; kiwi, tui, kea, bellbird, fantail

10. Do you know the common names of any native spiders?
    Y/N
    (**52**/48)
    Please list: average # listed by an individual; **1**
    Most commonly named; katipo.

# Natural Gas Controversy Flares Up

*Natural gas flaring at Waihapa oil well near Stratford.*

While you read this sentence, nearly 500 cubic feet of natural gas is being flared off at the Waihapa oil field in Taranaki. Under the guise of performing extended testing on the field, Petrocorp (the field's operators) have been extracting about 7,000 barrels of oil and about 7.3 million standard cubic feet of gas per day for the past year – and all the gas is being flared off. The oil earns the company $80 million per year.

The energy value of what has been burnt is between 2 and 3 petajoules (PJ) for the year – compare this figure with the total NZ use of CNG per year (about 3 to 4PJ) and the true enormity of the wastage becomes apparent. To put it another way, the gas flared per year is about 2 percent of the output from the Maui field and would be enough to give each CNG-converted car in New Zealand 5,000 free kilometres every year. Can this country afford to burn off a future energy supply in these quantities when almost every energy analyst says that natural gas is going to be in very short supply at some time in the future?

Not only is a valuable resource for the future being wasted. Each cubic foot that is burnt adds at least a cubic foot of carbon dioxide to the atmosphere, or about 2.6 billion cubic feet per year. On a yearly basis, this is equivalent to the addition of 130,000 tonnes of $CO_2$ to the atmosphere with very definite consequences for the greenhouse effect and global warming.

The field operators, Petrocorp, say that the flaring is necessary because it would cost too much to install the equipment required to process and pipe the gas into the gas supply – but they claim they still have to continue their testing to be able to estimate the field's reserves accurately and get their production licence. However, they must already have a good idea of what's in the field from the testing that has been done to date – a good enough idea at any rate to allow for adequate future energy planning.

Petrocorp are further defending themselves by saying that the greenhouse argument is a non-starter because it doesn't matter whether gas is burnt as a flare or in cars as CNG – the same amount of carbon dioxide would still be produced. But what if the whole field were to be left untouched until it is required? And what about re-injection of the gas back into the field to wait until it can be used? And what other options might there be if they were only looked for? It's hard to avoid the feeling that for all the talk about the greenhouse effect nobody is actually trying to find what can be done about it – the "our own little bit is so small that it's all right to continue" syndrome.

So why, you might be asking, is the government not doing anything about it even if Petrocorp won't? The short answer is that they want to but can't at the moment – the long answer is more to do with the way energy policy is perceived. Without going too much into detail, the reason why they can't is bound up with the way in which the Petroleum Act and Petroleum regulations operate – these dictate the stages and procedures that have to be gone through during the prospecting and operating periods of a development and they do not allow the flexibility required to ensure that wasting of resources does not happen (as we can see at Waihapa). The affair is complicated even further by a court case Petrocorp have brought against the Ministry of Energy about the way a licence block next to Waihapa was awarded – which meant they were able to take out an interim court order to stop the Ministry preventing them from flaring.

So why doesn't the Government make sure it has the power to regulate when it is needed? Here we get back to the long answer – they're in the middle of doing it as part of the RMLR exercise. There is genuine concern within government about wise use of energy resources and the greenhouse effect – the new RMLR Act will (we hope) give them the regulatory powers they require but it won't become law until the end of this year at the very earliest. And meanwhile, the flaring at Waihapa continues. (Another 500 cubic feet just went up, remember!).

It is no longer any good to continue just to talk about it. Some environmental scientists are already saying that we only have 40 years left if we don't get our act into gear and start to make changes now. Stopping the flaring at Waihapa is part of this but it is just a start – and we shouldn't forget that care for the environment has to become an essential way of life for all of us, not just governments and big companies.

**Alan Hallett**

Please write to the following asking them to stop the flaring:
**Rt. Hon David Butcher**, Minister of Energy, Parliament Buildings, WELLINGTON.
**Rt. Hon Geoffrey Palmer**, Minister for the Environment, Parliament Buildings, WELLINGTON. **Mr J W Falconer**, Managing Director, Petrocorp, PO Box 1818, WELLINGTON

# Sugar Loaf Islands – Marine Park Under Threat

New Zealand has a complex and extensive coastline, of which only a tiny proportion has been protected from exploitation. In the late 1970s a group of Taranaki locals began promoting the idea of a marine park at the Sugar Loaf Islands, to preserve and enhance the area for other recreational users. After many years of negotiating with clubs and groups who use the area and frustration with a legislative system not capable of providing the type of legal protection envisaged by its promoters, the Sugar Loaf Islands Marine Park was formally opened in 1986.

It covers 8 km² of ocean adjacent to New Plymouth city and includes islands and reefs formed nearly 2 million years ago during the province's earliest volcanic phase. Being the only protected area of marine life south of Auckland and on the doorstep of a busy city and port, it appeals to a large number of people. The inshore beach forming part of the eastern boundary is one of the province's leading surf beaches. The spectacular undersea geology entices equally fascinating marine creatures into its system of caves, canyons and pinnacles – a treat for scuba divers – while many folk enjoy a tranquil stroll along the sandy beach, a breath of salty air and watching the sun setting into the ocean.

*Over the last few years fur seals have finally returned to the Sugar Loafs, after many years absence and following early European slaughter. Today up to 200 arrive for a winter stay.* Photo: T Wilson

*Typical of the Sugar Loafs, the blue-eyed triple fin is not found in such numbers elsewhere.* Photo: Dave Maddocks

Moturoa and Saddleback Islands are home to New Zealand's northernmost colony of fur seals while the combination of a food-rich ocean and rodent-free islands encourages many thousands of oceanic birds to nest in the area. Grey-faced petrels, fluttering shearwaters and white-faced storm petrels share their neighbourhood with little blue penguins. A threatened native plant, Cook's scurvy grass, clings precariously to the sides of these rugged islands.

However – a marine park is primarily under the water. Several major ocean currents bring not only nutrients, but also juvenile species into the area. These establish themselves in the diverse underwater terrain – some in deep and quiet canyons, filtering food from the passing current. Others choose to live closer to the surface and daylight. These animals need to be able to withstand a heavy pounding from quite violent Tasman storms.

The park wasn't set up as a live museum – it encourages recreational use and permits limited forms of amateur fishing. The need for local commercial fishers to obtain their kahawai bait from the area was recognised, but otherwise it is exempt from fishing. The rapid population build up of several species – including crayfish and butterfish – has shown this policy to be very effective. Yet just as the fish are returning, the ideals of the area now face the threat of oil exploration, with a proposal from Trans Canada Pipelines Resources Ltd (TCPL) to drill an exploratory well in the midst of the park. It seems incomprehensible that with thousands of kilometres of coast and sea floor to choose from, the "best site" (from the company's point of view) is within this protected area. Local opposition to the proposal is intense and widely felt, yet the issue seems to have drawn little comment from outside the province. What future do our existing marine reserves and newer proposed ones have, if it is only the local users who are asked to no longer exploit the area, while large multi-national companies face no restrictions?

The Sugar Loaf Marine Park is a nationally important conservation area and should be preserved on that merit alone. Any precedent set by allowing oil exploration here could spell disaster for other protected areas.

**T. Wilson**

*The marine park is a popular attraction for divers.* Photo: Barry Hartley

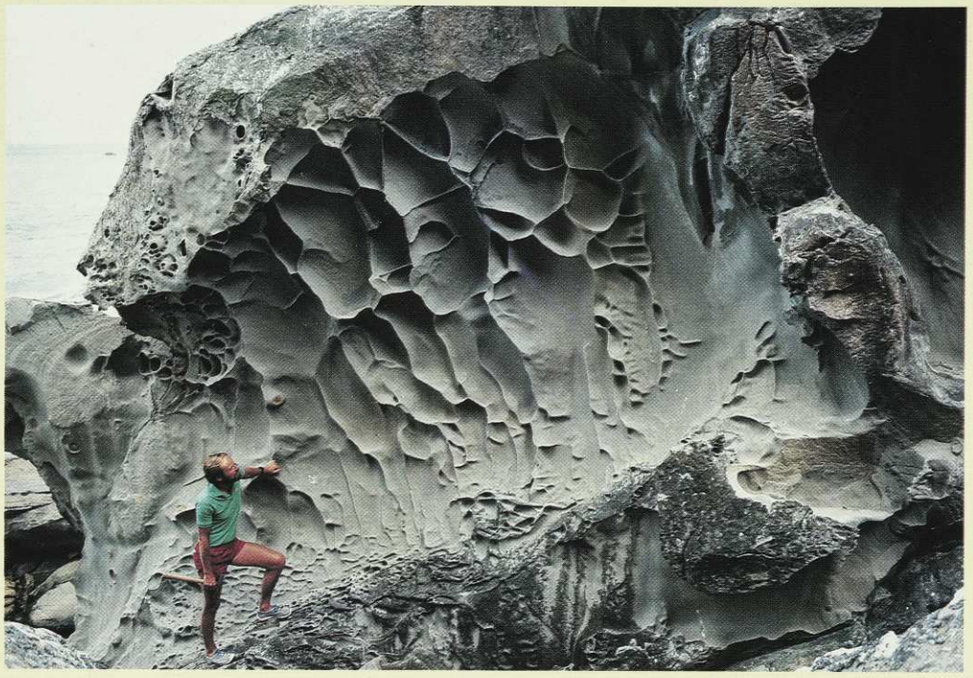
## New Geological Guidebook Series

New Zealand has been described as a land of "little landscapes", a country where considerable landscape diversity is found within a relatively small geographical area. Although it is the geology that provides the basis to these landscapes, the recognition of the part that geology plays in establishing the character and quality of the New Zealand landscape is not widely appreciated.

Geological features have not generated the same amount of public interest as have our plants and animals, yet New Zealand has many dramatic landscapes in which geological features play a key role.

A new series of quality geological guidebooks by the Geological Survey in association with Landscape Publications could change this lack of recognition. The first of these *Reading the Rocks: A Guide to the Geological Features of the Wairarapa Coast* is due for release towards the end of the year.

The book, along with the rest of the planned series, is both a guidebook and a quality reference text. Its large casebound format (275 x 210mm) allows the colour plates by photographer Lloyd Homer be used to their maximum advantage, and the six laminated field guide cards (210 x 148mm) containing key descriptive and pictorial information have been designed to be taken into the field. When not being used the cards are kept in a pocket inside the book. In effect it is two books in one.



*Honeycombe Rock/Glenburn Coast.* Lloyd Homer

*Reading the Rocks* comprises a combination of aerial oblique, ground level and close up photographs, complemented by a text by NZGS geologist Phil Moore. The text, mainly by way of expanded captions, describes the 16 geological features covered. In addition several line drawings are included to provide extra detail on some of the geological processes described.

The series should appeal to the public, students and scientists alike. It will cost $34.95 (incl. GST).

## Fascinating Facts About Native Bats

The fact that the endangered kakapo is a lek species has been known for sometime – but scientists have now discovered that the short-tailed bat is another lek species.

Lek behaviour refers to the practise of male animals – insects, fish, frogs, birds and mammals – congregating together in traditional sites where they call and display to females.

DSIR Ecology Division researcher Mike Daniel recently went to Codfish Island, the 1500-ha reserve km northwest of Stewart Island, to observe the bizarre mating ritual of the short-tailed bat. That and the long-tailed bat are our only native mammals.

On Codfish Island – incidentally the island where the kakapo is at its most numerous – the bats fight for small holes in trees. From these they 'sing' for up to 10 hours a night for 10 to 12 weeks in what is considered a pretty exhausting exercise and one that places them at risk from predators. People can hear the high-pitched pulsating warble for over a distance of 50 metres.

Each night female bats visit the traditional holes to mate. However, most of the males fail to attract a female, a feature common to all lek species. Scientists do not know whether the female is attracted by a vigorous display or whether the location of the tree is the key. A further unexplained feature of short-tailed bat breeding is that the young are born in the middle of winter, six months later than bats in North Island kauri forest which do not have a lek system. They are born without fur and at a time when there is little food – factors scarcely conducive to survival of the species!

*The short-tailed bat – scientists are uncovering some of their hitherto secret mating habits. This one was photographed in a kauri forest.*

In other ways the short-tailed bat is unusual. Although it can fly 20-30 kms per night, it in fact spends a lot of its time scuttling up and down tree trunks or into seabird burrows. They eat flying insects, insects on the ground, fruit, pollen and nectar.

## Elephants and Ivory

Conservation groups have called for an immediate ban on all ivory trading in an attempt to save the African elephant. Some experts are predicting that the last wild African elephant could be extinct within the next decade unless urgent action is taken.

The form of that action has recently been the subject of heated debate by conservation groups. Until June two opposite viewpoints on how to save African elephants had been battling it out.

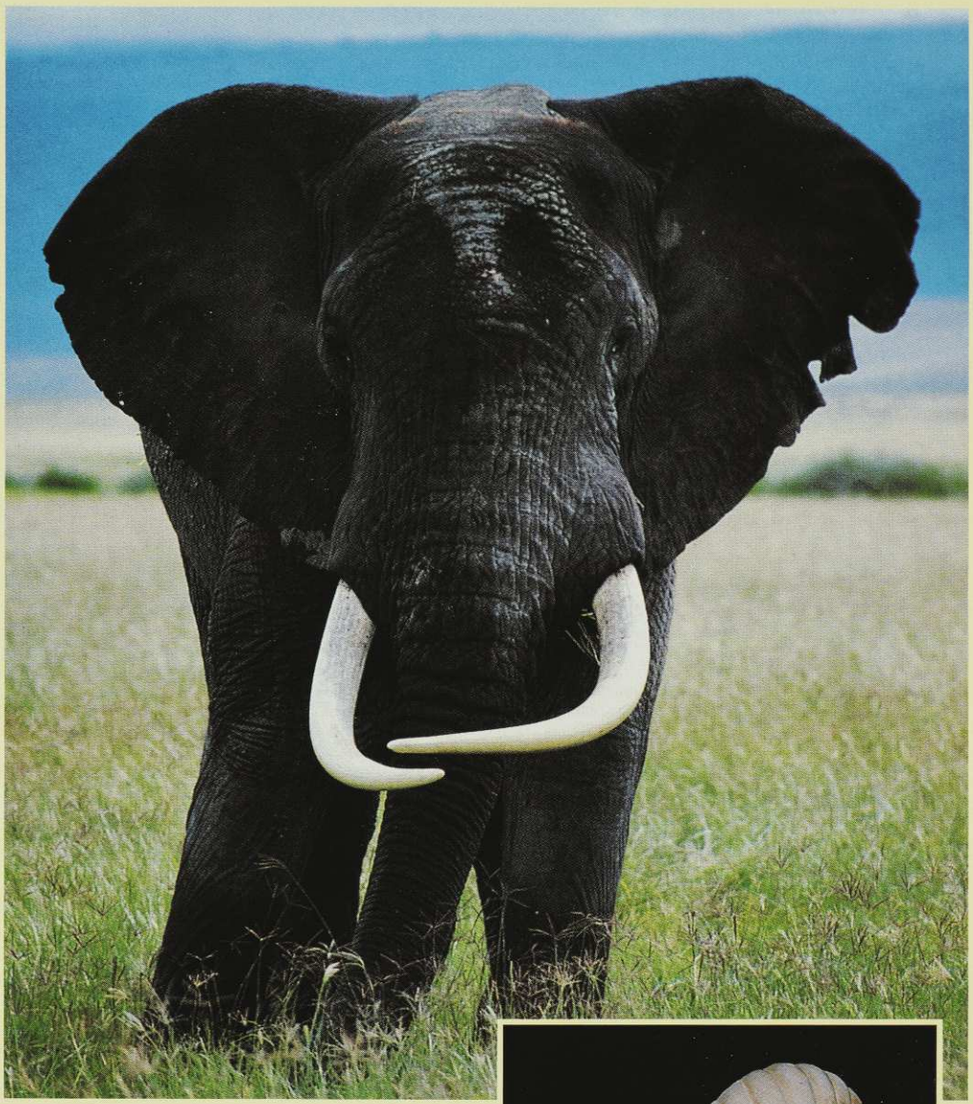
On the one side a consortium led by the International Wildlife Coalition (IWC) argued that the trade in ivory should be banned outright. On the other the World Wide Fund for Nature (WWF) and the International Union for the Conservation of Nature and Natural Resources (IUCN) contended that money from the sale of legal ivory could be used to save elephants.

The original WWF/IUCN strategy involved high risks and huge numbers of elephants would have been sacrificed as a result of it. It proposed that 42 select populations comprising 350,000 elephants would be protected – but the remaining African population estimated at 350,000 would be "written off."

Critics pointed out that the 42 select populations were centred around the study sites of WWF/IUCN elephant advisers and that they are all happen to be in English speaking eastern and southern Africa. Africans in francophone states had been left at the hands of ivory poachers under the plan.

The WWF/IUCN strategists say that in countries like Botswana, Zimbabwe, Malawi, Namibia and South Africa, legal ivory exports help conservation work.

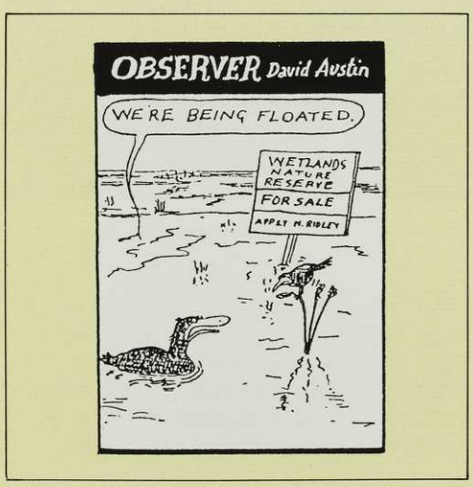
The IWC consortium took a different tack. It has petitioned the US Congress to raise the status of the elephant from Threatened to Endangered – a move which would put a stop to US imports of legal ivory overnight. In 1986 the US consumption of ivory amounted to 32,000 elephants, although it has fallen since then. The consortium is persuading the EC to ban ivory imports and is attempting to place the elephant under Appendix 1 of the CITES Convention, a much higher degree of protection which will mean no commercial trade between the 96 nations who have signed the Convention.



Still to contend with if that succeeds are the eastern ivory consuming nations such as Hong Kong, Japan and Taiwan.

By June WWF/IUCN had come around to the IWC consortium's point of view. IUCN chief Martin Holdgate announced that all trade in ivory should stop because "poaching has continued on a massive scale, and the market has clearly provided an outlet for illegal ivory alongside that legally taken. Stopping the trade altogether is the only way we have of closing the loophole."

*This bangle made from elephant ivory was recently bought in a New Zealand shop. The trade in all elephant ivory should be officially halted by the end of the year.*




## Privatising Nature Reserves

Despite record numbers of new recruits in Britain's different conservation groups, it appears such organisations are powerless to stop planned sell-offs of nature reserves.

The Royal Society for the Protection of Birds (RSPB) has more than 500,000 members, Greenpeace 200,000, World Wide Fund for Nature 150,000 and Friends of the Earth 100,000.

However protests from these groups seem not to have dissuaded Environment Secretary Nicholas Ridley from pressing ahead with plans to sell off some of the "crown jewels" of Britain's natural treasures.

The consequences for non-government organisations such as RSPB – presumably the likely buyers for the reserves – are worrying. Their role will possibly change from being nature advocates to reserve managers. Already the RSPB owns reserves and the responsibility of that role reduces their advocacy work.

It is a cautionary tale for those who have advocated that in New Zealand a private national trust take over the role of the Department of Conservation.

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## Annual General Meeting

The Society's 66th Annual General Meeting and Council Meeting were held in Wellington on 24th June. Two new executive members were elected, **Catherine Ashley-Jones** of Wellington, and **Alan Fielding** of Levin.

**Professor John Morton** from Auckland was created a Distinguished Life Member in recognition of his contribution to the Society and his service on the Executive for many years.

President Dr Alan Mark spoke of the departure of **Dr Gerry McSweeney,** Conservation Director, and expressed sincere regrets that he was leaving. He thanked him for the professionalism which he had brought to the Society's operations on all levels, in liaison with branches, with Ministers of the Crown, and senior Government staff in all fields. He commended him for the significant contributions he had made to the protection of the South Westland World Heritage area, and to the creation of the Tasman Accord. He also noted that the Department of Conservation had expressed their respect and appreciation for his considerable contribution to conservation.

Dr Mark wished him well with his Lake Moeraki enterprise and presented him with a personal computer in appreciation of all that he had achieved for the Society.

*Old Blue Awards were presented to:*

**David Appleton** (Napier) for 9 years service on the National Executive, and services to conservation in Hawkes Bay.

**Stan and Kath Ayling** (Coromandel) for conservation in the Coromandel.

**Bill Ballantine** (Leigh Marine Laboratory) for promoting and raising public awareness of marine reserves.

**Helen Coulson** (Wellington) for 12 years loyal service as one of the Head Office staff.

**Linda and Peter Daniel** (Kapiti Island) for preserving Kapiti Island and helping to eradicate possums on the island.

**Paul Every** (Dunedin) for conservation in Otago, particularly with the yellow-eyed penguin.

**Earle Norris** (Nelson) for conservation work with children, and branch development at Ashburton and Oamaru.

Through the remits the council resolved:

To call on the Government not to ratify the Antarctica Minerals Convention; to apply a total export ban on indigenous woodchips and whole logs; to call on the Government to take all appropriate action to halt the practice of drift-net fishing; to encourage the Government to formally protect a comprehensive network of coastal and marine reserves; to urge the Government to implement a policy of native species for erosion control; to encourage the growing of special purpose exotic and native trees for timber; to adopt as the Society's 1990 theme "1990 onwards . . . towards a sustainable future"; to persuade the Government to initiate a major campaign to eradicate *Clematis vitalba* throughout the country; to strongly support increased funding for the eradication of possums and goats; to call on the Prime Minister to appoint the Minister of Conservation to Cabinet; to urge the Government to give complete protection to all brown teal nesting sites.

Councillors also set new subscription rates for 1990, and passed a vote of thanks to all involved in successfully negotiating the Tasman Accord.

## Subscription Rates

The subscription rates for membership of the Society were altered slightly to cover inflation and the new rate of GST. Kiwi Conservation Club subscriptions remain unaltered.

The rates for 1990 are as follows:

| | |
|---|---|
| Kiwi Conservation Club (for children up to 16) | $10 |
| Students, Schools | $23 |
| Single | $38 |
| Family or Groups | $38 |
| Senior (over 60) | $27 |
| Senior family | $27 |
| Corporate | $275 |
| Life | $475 |

(Includes GST)

## Obituary Tony Burgess (1946-1989)

Lower Hutt Branch has lost one of its most active members in Tony Burgess, husband of Maureen, Chairman of the Branch and member of the Society's Executive Council. He leaves two young sons, Gavin and Robert.

Tony was a tireless worker for conservation who displayed great talent and skill in research, writing, advocacy and in getting others to work beside him. He took to heart a wide range of issues particularly coastal protection, clean water and the development of the Hikoikoi Reserve on the Petone foreshore. Tony and Maureen worked as a team in constantly urging the Borough Council to remove temporary industries as their leases expired and to proceed with planning. When the Reserve is eventually opened many people will see it as a memorial to Tony and will recall his patience, quiet determination and generous spirit.

Tony Burgess spent all his life in Lower Hutt. He was dux of Naenae College, took up motor rallying, enjoyed photography and recently completed the Fletcher Marathon in Rotorua. He worked for IBM for 22 years.

The Society extends its most sincere sympathy to Maureen, Gavin, Robert and their wider family.

**Stan Butcher**

### Canterbury Branch Stocker Scholarship Grants

Applications are invited from individuals or groups for a grant for a conservation project over the 1990 year.

The research or project undertaken must have special reference to the needs of the South Island and further the objects of the Royal Forest and Bird Protection Society as stated in the Society's Constitution.

The results of the research or project shall be communicated widely and as relevantly as possible.

A total of $3,500 is available and at the sole discretion of the trustees, this may be awarded in whole or part to one or more applicants, or held over for a subsequent year.

Applications should be sent to: Forest and Bird, Canterbury Branch, P O Box 2389, Christchurch.

### FOR SALE

Freehold land, residential section, 3988m² Punakaiki, drive on access to boundary. Fully serviced with underground power, telephone and H.P. water. Within Paparoa National Park right next to Truemans Track. Fully covered in second growth forest. Ph (0516) 89-201 or write PO Box 17, Arthurs Pass.

### NORTHLAND

**Mangawhai**

Beside estuary Reserve – peaceful, secluded. B & B (4 guests only). Dinner available. Ph. Sibyl Canning 084668822.

**Kerikeri**

Property with bush and river close to forest and sea. S.C Cottage – fully equipped, sleeps 4. Ph. Anne and Hugh Canning 088778059.

### FOR SALE – Kaiwaka, Northland

9 acres, half in unique lowland forest plus house site in sheltered, partially developed, sub-tropical orchard. $40,000 (GST included).

126 acres, 40 acres pasture, 15 acres mature broadleaf, balance mature manuka/kanuka contained in own catchment, excellent water supplies, organically managed for twelve years. $90,000 (GST included). ***Ph (0846) 22-145.***

### GLOBAL ISSUES

For in-depth articles on major world environment and social issues, by internationally respected authors – **THE ECOLOGIST** Co-edited by Edward Goldsmith, author/editor of important books, including A BLUEPRINT FOR SURVIVAL, 1972. THE EARTH REPORT, 1988. GAIA, the Thesis, Mechanism, Implications, 1988. THE GREAT U-TURN, De-Industralising Society, 1988. *Now available in N.Z. For details write to: The Ecologist, Three Streams, R D 3, Albany. Ph (Auckland) 415-9336.*

### OBSERVATIONS OF KINGFISHERS REQUIRED

For behavioural study of the New Zealand kingfisher, I would like to hear from anybody with interesting and unusual observations regarding nesting or predator behaviour, intra- and interspecific interactions, diet and ecology. Please write as detailed as possible to Drs Ulco Glimmerveen, 42A Comins Cres., Mission Bay, Auckland, or phone 521-0961.

### SOUTH KAIPARA HEAD

Cabin type accommodation on coastal farm. Sleeps up to 12. Sunny position. Great harbour views. A good base for nature lovers to explore Waionui Inlet, Sand Hill Lakes and South Head Forest. Varied bird habitats. Archaeological sites, fishing and walking. 40kms from Parakai hot springs.

Daily rate $10 per person. Group rates on application.

Phone South Kaipara Head 502 or write B M Walker, South Head, R D 1, Helensville.

### FOR SALE

Cottage, Onepoto, Lake Waikaremoana, on a 1570 square metre bush section, 5 mins walk from Lake. 2 bunk rooms and living area. Furnished and fully equipped. $49,000 o.n.o. Write H A Timms, 13 Weathers Place, Taradale or Phone 070/443886.

### NELSON LAKES HOLIDAY COTTAGE

By National Park at St Arnaud. Bush walks, mountains, rivers & Lake Rotoiti. Sleeps 4/5. $45 per night, $225 per week. Write: S Frost, 17 Erin St, Hawera (ph 062-87927).

### LAND WANTED:

Suitable for wetland refuge – anything considered – habitat restoration if necessary – covenanted protection guaranteed.

Buyer: Life Member of Society. Please write: 'Advertiser' Box 1016 Levin

### COTTAGE AT RANGATAUA

On six acres, near Ohakune and Mt Ruapehu, this popular location is ideal for a holiday. Members and friends welcome. Sleeps 8 comfortably. Just bring food and bedding. For further details, please write to Mrs B L Hoadley, 30C Chatsworth Road, Upper Hutt; (04) 283-527.

# The greening of a FOREST GIANT

By Gerry McSweeney

*The protection of Tasman's Gammons Block by sale to the Department of Conservation will safeguard the forest homes of the largest remaining population of kokako in the North Island.* Photo: Rod Morris

"We are committed to the best possible use of New Zealand's resources – and sometimes that means to leave them in their natural state."

With those few words, Bryce Heard, Chief Executive of Tasman Forestry Ltd, wholly owned subsidiary of the giant Fletcher Challenge group, joined with the Minister of Conservation, Forest and Bird, Federated Mountain Clubs and the Maruia Society on 22 June to sign the historic Tasman Conservation Accord.

Negotiated over a 15 month period, the Accord safeguards 52 important areas of native forest throughout New Zealand from Otago to the Coromandel totalling 42,101 hectares. It represents the biggest commitment ever made by a New Zealand company to conserving native forests and wildlife.

It has also delighted staff of the Conservation Department, particularly Rotorua Regional Conservator Dave Field and Principal Wildlife Officer, Alan Saunders of Waikato who have played a key role in the Accord and in the battle to save endangered kokako in the Central North Island. Today a total of only about 1,000 kokako survive. The largest remaining population are found from the Mamaku Plateau to Rotoehu Forest between Tauranga and Rotorua.

Under the Tasman Accord, 3,500 hectares of native forest on Tasman's Gammons block in the heart of this area will be sold to the Conservation Department and added to the adjoining Kaimai-Mamaku Forest Park. Not only will this safeguard the kokako, kiwi and other native birds in the Gammons forest, it will also provide birds with a continuous forested corridor from the Forest Park across the Bay of Plenty to the important outlying reserves of Puwhenua, Mangorewa and Otanewainuku.

As well as protecting kokako habitat, Tasman Forestry will grant $150,000 over the next three years for research and management to ensure the kokako's survival.

Under the Accord some tawa forests in the Gammons block will still be cleared in order to meet Tasman's legal commitments to the Kinleith pulp and paper mill until December 1990 when Kinleith will substitute plantation eucalypt for the native tawa it presently uses to produce the bulk of New Zealand's high quality papers. However, until this conversion occurs, tawa will only come from low conservation value cutover forests that do not contain kokako and are not part of the vital Mamaku plateau wildlife corridor.

## Historic End to Clearance

Amidst the Accord's long list of forest names, hectares of reserves and of the threatened species protected, it is easy to lose sight of probably the most significant provision of the Accord.

The Accord states: "Tasman Forestry shall adopt an environmental code of practice for its operations in New Zealand that will preclude the clearance of indigenous forest."

In February 1989 Tasman also gave a commitment to the Commerce Commission that were they successful in their bid to acquire state production forestry assets they would "bring about a halt to all logging of native forest as soon as practically achievable."

This is an historic commitment. It means an end to the pioneering days when industry regarded our bush as a treasure house to be plundered. It parallels the Government's 1986 decision to set up a Conservation Department, since entrusted with protecting 98 percent of New Zealand's publicly owned native forests.

Because of this commitment to stop all bush clearance and halt all native logging in state production forests, Forest and Bird has supported Tasman Forestry's bid to purchase state forest assets. If the Crown is to sell these forests we believe Tasman's ownership of them would be preferable to their purchase by, for example, Nelson Pine Forests Ltd who run the beech woodchip mill at Nelson, Venture Pacific Ltd who seem increasingly keen to woodchip the North Westland beech forest and Carter Holt Harvey – Caxtons who continue to log native forest and are reluctant to negotiate with us. It is also preferable to their purchase by a number of Asian companies bidding who have expressed little interest in forest conservation. It may also be better than leaving the state forests with the Forestry Corporation who have doggedly championed the logging of native forests in South West New Zealand and fought against enforceable sustained yield covenants in North Westland.

Bryce Heard and David Buckleigh, Managing Director and General Manager of Tasman Forest Division respectively, make no bones about why the company sees no future in clearing native bush for pines or logging for native timber.

"It simply doesn't make economic or environmental sense. New Zealanders don't want their remaining native forests logged. Also because we are now down to remote remnants it's very expensive to log these areas. The most economic areas to establish plantation forests are on already cleared farmland, some of which is reverting to scrub, and not to embark on the expensive business of first clearing the native forest."

David Buckleigh and Bryce Heard should know. On their staff they now have the best advice available on New Zealand's pine forests in former Forest Service scientist Dr Wink Sutton. Dr Sutton, who is currently also president of the NZ Institute of Forestry,

makes it clear that instead of the endless bitter arguments of the last 10 years over logging native forests, the NZ forest industry should have concentrated on planning the processing and marketing of our huge radiata pine resource which presently supplies 98 percent of our timber production and has enormous export importance.

Sutton is a firm believer that the sooner the world leaves natural forests undisturbed as gene pools and switches to timber production from plantations, the better.

*Tasman's 2050 hectare Aratika Reserve on the shores of Lake Brunner in Westland, looking south to Mt Te Kinga. This preserves a large area of virgin rimu forest on the shores of a scenic lake.* Photo: Tasman Forestry

*Accord signatories, from left, David Crawford (Federated Mountain Clubs), Gerry McSweeney (RF&BPS), Bryce Heard (Tasmans) and Philip Woollaston (Minister of Conservation).* Photo: Dominion

## Dialogue not Conflict

The Tasman Accord makes good economic and environmental sense but it also signals a new approach to environmental problem solving. Traditionally, industry and the environment movement have been like prize-fighters in a ring, acrimoniously slugging it out with each other until a referee – usually the Government or the courts – intervenes and comes up with a compromise which often pleases neither the environment movement nor industry.

By contrast, in the Tasman Accord negotiating process parties directly involved sat down to discuss issues and find solutions. For nearly a year, Forest and Bird (Gerry McSweeney, Basil Graeme and Kevin Smith), on behalf of the environment movement, Tasman Forestry (David New and David Buckleigh) and David Field of the Conservation Department identified common ground, tabled information on the ecological and commercial importance of blocks and progressively resolved issues of disagreement. We were helped in the task by a major report on the ecological values of all Tasman's holdings prepared by Kevin Smith with help from other Forest and Bird and DoC staff.

The amicable Accord signing ceremony in Fletcher Challenge's Wellington boardroom represented a giant advance from the bitter battles of the late 1970s and early 80s to save the kokako-rich forests of Rotorua's Mamaku plateau.

## Mammon on the Mamaku

Under an extraordinarily generous 1973 leasing arrangement, the Government leased NZ Forest Products (NZFP) the Mamaku plateau native state forest for clearance, burning and conversion to pines. Surrounding the state forests were other native forested lands owned or leased by NZFP where clearance proceeded apace. At that time these forests had kaka, kakariki and many kokako. By 1976 half these native forests had been eliminated soon followed by all its kakariki, most of the kaka and many kokako. In 1969 the late Sir Charles Fleming penned a blistering attack on the logging operations and their effect on birdlife in a *Listener* article entitled "Mammon on the Mamaku".

The article and the Native Forests Action Council's 1977 Rainforest Campaign riveted public attention on Horohoro and other Mamaku plateau forests. Outrage at the burnoffs was widespread and was spearheaded by Tauranga and Rotorua conservationists and Hauraki plains farmers led by Brian Wright and Gordon Stephenson.

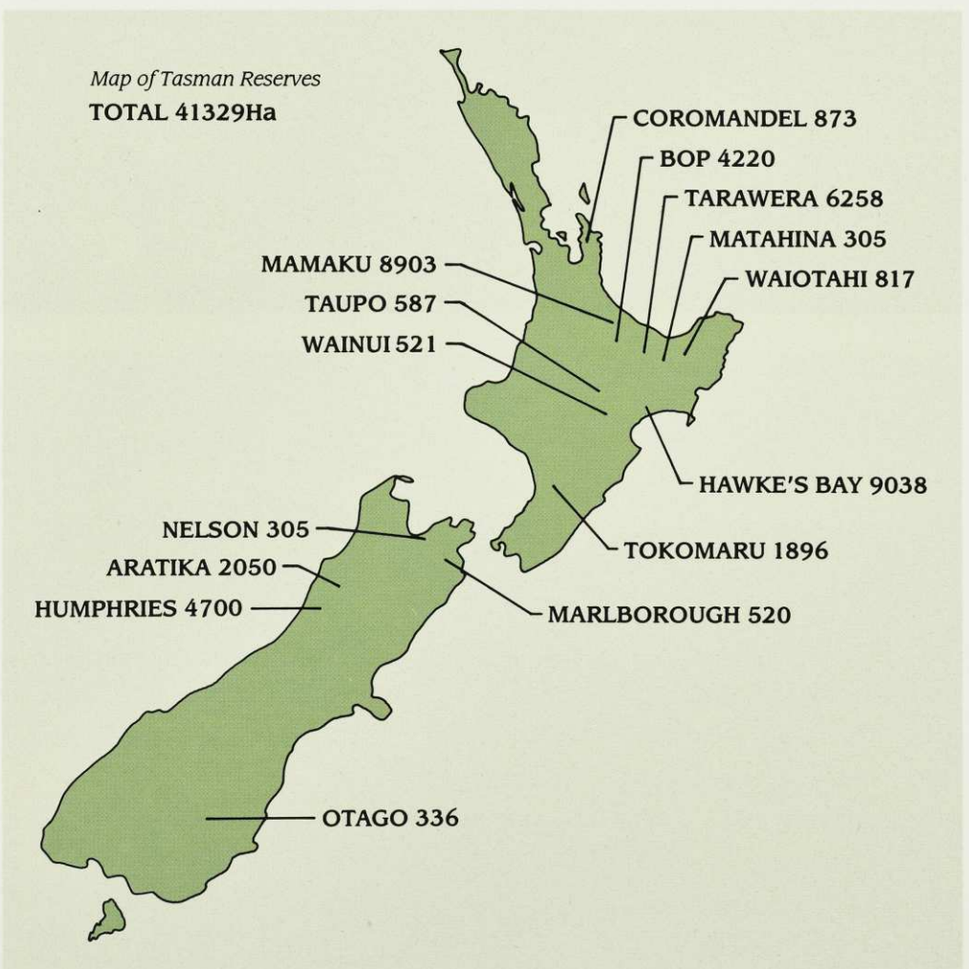
Finally in 1983 at the height of the battle to fully protect the Kaimai-Mamaku Forest Park, ecological surveys were carried out of the 20 percent of original native forest which remained of NZFP's Mamaku Sate Forest lease which adjoins the Forest Park. As a consequence of these Forest and Bird and Wildlife Service surveys and with the co-operation of NZFP, much of the remaining leased state native forest was reserved.

All this time conservation attention had focused on the public estate. We felt largely powerless to influence native forest clearance of private land. Unfortunately, this feeling was reinforced at the Commission for the Environment's 1985 Tauranga conference on native forest which served to uphold private property rights over native forests and the public's sense of powerlessness to halt the consequent tragic loss of lowland forests.

However, dramatic changes in attitude were simultaneously taking place amongst kokako scientists and the public. Public abhorrence of native forest logging and clearance was growing throughout New Zealand and even on the West Coast burnoffs ceased in 1986. Removal of Forestry subsidies also rendered uneconomic most "conversion" operations. Kokako research on the Mamaku plateau building on Wildlife Service survey data also revealed that these Bay of Plenty forests held the largest surviving kokako populations in the country. Only by halting the destruction of these forests and the fragmentation of the linking forest corridors could the birds have any chance of a future.

Unfortunately the Wildlife Service's timid and powerless negotiators agreed to protection of only minimal corridor areas on the plateau – amounting to little more than steep gully systems – soon shown by kokako researchers to be almost useless to sustain kokako.

From 1984, Forest Products forest clearance operation therefore relentlessly continued to eliminate nearly a thousand hectares a year of forest on the plateau.




## Changing Conservation and Corporate Scene

The tide turned in early 1988. Newly appointed Forest and Bird staffers Ann and Basil Graeme, Bay of Plenty conservationists and enthusiastic staff of the new Department of Conservation resolved once and for all to save their kokako and halt each summer's mushroom smoke clouds from native forest burnoffs. The 1987 stockmarket crash and the demise of Forest Products Rada group also signalled big changes on the corporate scene.

The Australian-dominated Elders Resources NZFP company arose from the ashes

of that once great New Zealand company NZFP. As part of a complex exchange of assets, Fletcher Challenge subsidiary Tasman Forestry took over ownership of all the former NZFP leasehold and freehold forests on the northern Mamaku plateau and a contract to supply tawa to the Kinleith mill until December 1990.

Debate over the future of the remaining Mamaku plateau native forests intensified. In March and April 1988, Ann and Basil and other Bay of Plenty conservationists took centre stage in dispute with both Elders and Tasman Forestry on the Mamaku plateau and the Rotoitoi 5B1 block hit the headlines (*Forest & Bird* August 1988).

As a consequence of these public disputes Tasman, DoC, Forest and Bird and Elders agreed to try to negotiate a solution to a seemingly insoluble problem. On the one hand were outstanding native forests containing endangered kokako, on the other was Elders Resources Kinleith mill, a major employer, export earner and wholly dependent on a continuing supply of native hardwood to produce high quality paper. In the middle was Tasman Forestry committed to supply tawa and also with an expectation they could plant the cleared land in pines. Yet Tasman was also developing a corporate policy not to clear bush.

Through 15 months of detailed negotiations, a compromise was agreed on to resolve this dilemma.

In discussions with Elders, it was determined that plantation eucalyptus timber could be substituted for the native hardwood to make the Kinleith mill's high quality paper. (The substantial technological modifications and investment required to do this have just been approved by Elders and will be completed by December 1990.)

Tasman, Forest and Bird and DoC then tackled the issue of how to meet Tasman's tawa supply contract to Kinleith until December 1990 yet preserve all Tasman's native forest on the Mamaku plateau which contains endangered kokako.

After months of negotiation we reached an agreement which preserves all the forests containing endangered kokako, protects continuous native forest corridors across the Mamaku plateau and confines tawa extraction to small heavily cutover areas on the periphery of the plateau.

Elsewhere in New Zealand the Tasman Accord also gives legal protection to many native forests whose protection has long been sought by conservationists (see map). These include the 1,896 hectare Tokomaru forest behind Shannon at the northern end of the Tararua Ranges. Over the last 20 years a series of proposals to log the rimu forests have met determined opposition spearheaded by Forest and Bird's Manawatu and Horowhenua branches. As recently as 1984 logging proposals for the block's owners, the Odlins group (since taken over by Fletcher Challenge) spurred the formation of the Save the Tokomaru committee. Now under the Tasman Accord the Tokomaru block will be fully legally protected.

Other forests which will be legally protected include:

- Superb virgin rimu forest on the shores of Lake Brunner.
- 8,100 hectares of beech forest at Ngatapa in Northern Hawkes Bay next to the Whirinaki Forest Park.
- More than 6,000 hectares of forest on the lower slopes of Mt Tarawera in the Bay of Plenty.
- 340 hectares of beech forest next to the Mt Richmond Forest Park in Marlborough
- 100 hectares of regenerating kauri forest at Kopu in the Coromandel.

Conservation Minister Philip Woollaston has described the Tasman Accord as a landmark agreement between industry and environmentalists which can serve as a model for others to follow.

Other groups within Fletcher Challenge have already followed Tasman Forestry's lead on environmental issues. Since 1988, Fletcher Titanium Products Ltd has worked closely with community and environment groups in planning titanium mining on the Barrytown Flats in Westland. On 1 May 1989, prior to selling its mining venture and land at Barrytown, it gifted Forest and Bird all 27 hectares of its land which contains nesting colonies of Westland black petrel.

Fletcher-owned Australian Newsprint Mills is exploring a similar Accord negotiating process to resolve the bitter conflicts over forestry issues in Tasmania. On 19 June Fletcher Challenge Canada also announced an environmental policy for its operations.

At a time of unprecedented public interest in environmental issues no good business can afford to ignore the environment. Neither can environmentalists ignore business if we are to achieve the rapid and effective changes needed to guarantee all of us a future.

# NEW ZEALAND CONSERVATION CORPS

*Is the Conservation Corps simply a means of soaking up unemployment as its detractors claim or has it been a worthwhile initiative? Senior conservation officer for the Department of Conservation and coordinator of the programme Christine Smith, outlines some its achievements to date.*

## Ingredients

- Protecting important pa sites, eradicating mice on an island, developing walking tracks, doing a wild animal control assessment, surveying and planting endangered plants, building breeding enclosures, restoring historic buildings, tracking kereru (wood pigeon).
- Marae committees, polytechnics, government departments, voluntary organisations, private organisations . . .
- Young people, educators, conservationists, kaumatua . . .
- The Minister of Youth Affairs, Employment and Associate Education, the Minister of Conservation . . .
- The Departments of Conservation, Education, Labour and Office of Youth Affairs . . .
- Enthusiasm, commitment, energy, vision, caring . . .
- North, south, east and west.

## Method

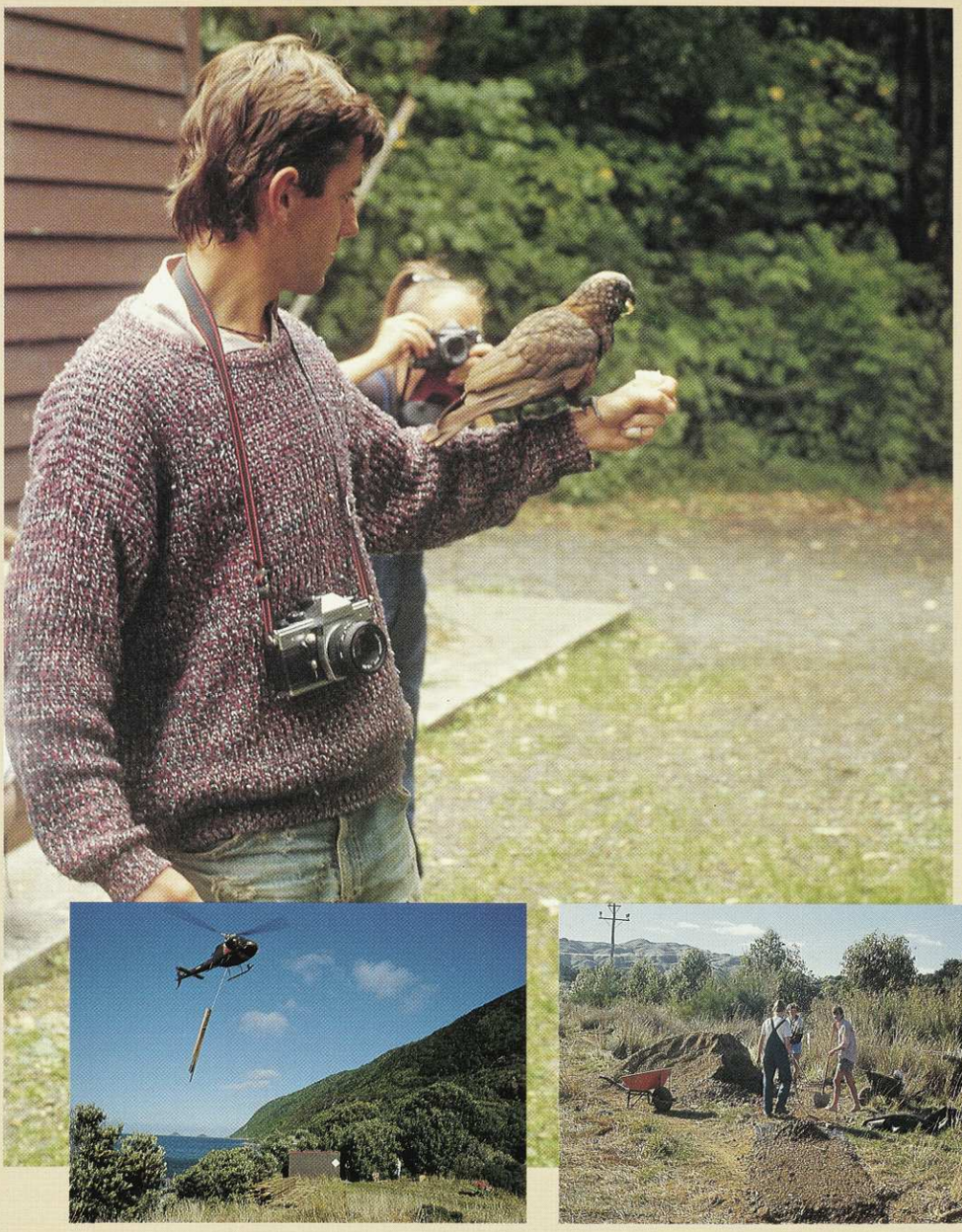
Mix all ingredients together.

Cook for 6-12 months in a caring environment.

The NZ Conservation Corps pilot scheme was launched by the Minister of Conservation and Youth Affairs, Employment and Associate Education in October 1988. Corps members are aged 16-23, and are paid a training allowance. About 150 project applications were received but only 19 of those could be supported from the funds available.

The first of the pilot NZ Conservation Corps (NZCC) programmes to get underway was that run by the DSIR's ecology division. The conservation projects being undertaken by the six members include wasp control, checking on the re-establishment of birds and lizards on islands in Breaksea Sound, Fiordland, helping evaluate whether rodent eradication from islands is worth the expense and helping research on New Zealand pigeons. This will give the young people training and experience in the field techniques for conserving endangered birds, insects and plants.

Further south at Kaiapoi, another group of young people are working on an important archaeological site: Kaiapohia Pa. The strategic importance of this pa is no longer obvious as 150 years of wetland drainage and reclamation have radically changed the original environment. Conservation Corps members on this project will be working to re-establish representative areas of both wetland and forest to give future generations a better understanding of the significance of the pa. Already the members have unearthed some interesting material; in preparing to fence off an area around the pa, an old palisade post was uncovered.



Top: *Tim Harcourt feeding kaka on Kapiti Island. The Corps stay on Kapiti for one week per month working on a new track and saddleback/tieke breeding boxes.* Photo: Chris Ferkins. Left: *Airlift! – bringing materials across to Kapiti Island for track and tieke roosting and nesting box and takahe pen construction – 35 trips in all.* Photo: Chris Ferkins. Right: *Left to right: Rachel McKay, Paul Kayes and Tim Harcourt building a track on the north side of Pauatahanui Reserve.* Photo: Chris Ferkins

Up the east coast to Hawkes Bay and the Napier YMCA Conservation Crops members are hard at work restoring and enhancing the southern shoreline of the Ahuriri Estuary. Over the years, urban and industrial development has encroached onto the estuary. The project involves conservation and landscape planting to limit further encroachment and enhance the visual and wildlife values of the area. To help the public better appreciate this special environment, a walkway is also planned.

Rewi Alley, with his philosophy of "Gung Ho" (working together), is a person who is likely to have approved of the Conservation Corps. So it is appropriate that one of the projects is the preservation of the farm cottage he lived in from 1921 until 1927 when he left for China. The Conservation Crops members involved in this project are clocking up the kilometres because as well as the Rewi Alley house at Moeawatea (Taranaki hinterlands), they are also restoring the Gardener Downdraught Kiln in New Lynn. A young man named Warren describes it this way:

"There is always going to be another lovely little building or site to save surrounded by gorse; alone and dying.

Then over the brow of the hill comes the Conservation Corps armed with slashers and hammers and saws. You're saved, little house. The Conservation Corps is here."

*NZ Herald,* 10 May 1989

# A recipe for success By Christine Smith

The Manawatu is the location for a project designed to protect two important and vulnerable cultural plants: pingao and kakaho. Pingao is used for tukutuku (decorative panels) work and kete (basket making). Kakaho is used for thatching and the base to which tukutuku is attached. Both plants are coastal and in danger through indiscriminate harvesting, off-road vehicle recreation and invasion by competing imports such as marram grass. The Corps members will be involved in surveying, recommending rahui, propagating and planting pingao and kakaho.

On the West Coast, the department and the Te Tai Poutini Polytechnic are jointly responsible for 20 corps members. The members will regularly meet for residential courses but for much of the time will be split into small groups up and down the Coast. They will receive work-based training, often individually in a variety of agencies and environments. In groups of 6-8 they will also work on local community projects. Some of the planned community projects include planting kowhai in the Hokitika riverbed, eradication of *Clematis vitalba* in the Buller and Arahura Rivers, grafting kiekie, and identifying poru and hinau resources to ensure protection of high quality dye materials for traditional use.


*Recreational training is an integral part of the Corps. Hine McLetchie tries absailing above the Waiohine River. After the next step she didn't look so cheerful.* Photo: Chris Ferkins

## South Otago – Positive Work for the Environment

Twelve young people and their leader, Peter Gardener, are making an impact in South Otago. These young people belong to the Conservation Corps group set up by the Department of Conservation and the Telford Farm Training Institute. They are based at Telford Farm from where they set out each day to learn new skills and achieve conservation objectives. Since starting on the 20th of February and up until May 1989, they have:

- Cleared encroaching willows from 10 ha of wetland at Otanomomo.
- Learned chainsaw, stonewall building and fencing skills.
- Improved and maintained 10 km of track at the Forest and Bird Society's Lenz Reserve.
- Undertaken plastics pollution monitoring along 8 km of beach.
- Fenced and weeded an area of rare coastal plants at Crystall's Beach.
- Restored a 2 ha area of native bush at the Kaka Point Camping Grounds by removing non-native plants.

The South Otago Conservation Corps group will work together until December 1989, by when they plan to have completed a whole range of projects including the restoration and fencing of a Maori cemetery site at Kaka Point, the removal of weeds and possum control in several reserves, extensive planting and fencing work in yellow-eyed penguin reserves, construction of bird hides and erosion control planting and maintenance.

Left: *At Jack's Bay Blowhole in the Catlins, NZCC members have been tending native plants which will be used by yellow-eyed penguins.* Right: *Southland's Conservation Corps, left to right: Karin Stroud, Glen Aspinall, Mark Thomson, Cathleen Clark, Mark Everett, Peter Gardener (leader), Denise Paul, Harley McCabe, Barbara Wheeler, Greg Smart, Monique Falloon, Katrina Letts, Matthew McLennan.*

The Conservation Corps group has established a strong identity and takes pride in the nickname that other students at Telford have given them of the "Greenies and whale lovers". Their leader, Peter Gardener, who is a long serving Forest and Bird member, chairman and councillor from South Otago, says that his role is made enjoyable by the high quality of the members. The young people came to the group from as far afield as Invercargill, Wanaka, Arrowtown and Dunedin and all share a common interest in working for the environment. Most hope eventually to work full time in conservation. The enthusiasm and ability shown so far indicates that we will have some quality people to help manage our conservation estate in the future.

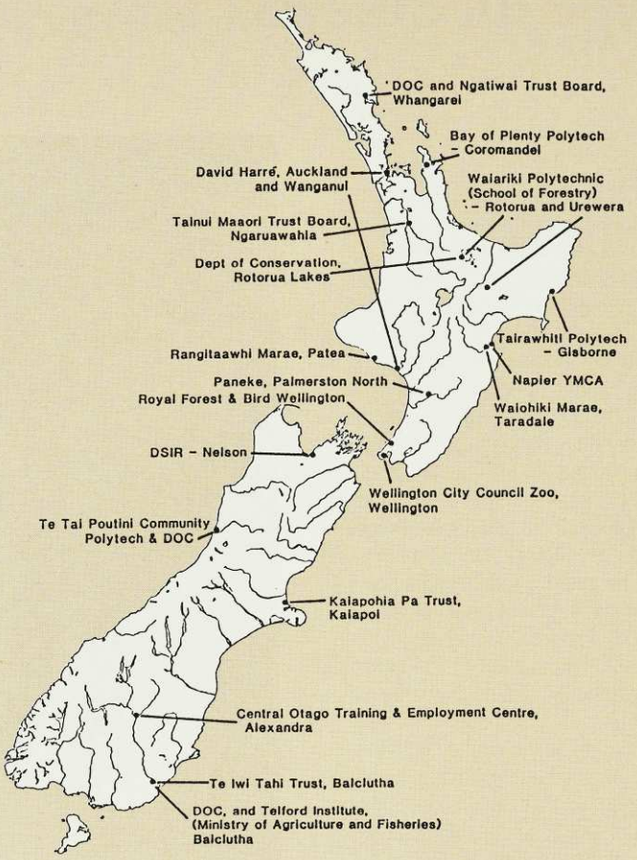
**Fergus Sutherland.**

*Clearing gorse from around a track at the Pauatahanui Wildlife Reserve, an effort much appreciated by Forest and Bird who manage the site and DoC who control the reserve. Left to right: Jonah Tu'uga, Calum MacMillan and Jason McCormick.* Photos: Chris Ferkins

One of the shorter (6 month) projects is the development of a walking track along the Roxburgh Gorge. As well as working on this track, the corps members will produce an information pamphlet describing the walk and the historic significance of the area to Maori, Europeans and Chinese.

These seven projects are a good sample of the 19 NZCC pilots, but it is important to realise that the conservation projects are only one part of the Conservation Corps. The Conservation Corps also aims to give young people opportunities for personal development and skill acquisition through participation in conservation activities of lasting benefit to the community.

*LOCATION OF NEW ZEALAND CONSERVATION CORPS PILOTS*




# Setting Up and Running A Conservation Corps Project

The Wellington Conservation Corps project is a $400,000 undertaking – just under $200,000 for direct costs and about the same for the members' allowances. The value of the work done is much higher because the Corps members are paid an average of only $2.50 per hour compared to $9 for a DoC labourer. In addition, we have received much welcome sponsorship, particularly from Shell and Monsanto.

The project was put together in a fortnight from the time a meeting of five Wellington regional branches decided what activities should be undertaken and who should prepare what, to when the application was lodged.

Our proposal was one of only 19 accepted out of about 150 applications. Having looked at the outstanding quality of the other projects accepted, and some that were not, I think we were pretty lucky. The fact that ours was the only one from a purely voluntary organisation and that we were based in Wellington probably helped.

**What has Forest and Bird gained from this project?**

- A higher public profile within the overall community, which will hopefully lead to more members and more involvement by members in Society affairs.
- An opportunity for branches to work regionally on activities which are important to the region and to the country as a whole.
- Better liaison with some very good people in DSIR, DoC, Forest and Bird Head Office, the Queen Elizabeth National Trust and regional organisations. They appreciate outsiders taking an interest and being prepared to help.
- Involvement with 15 very fine young people.
- Knowledge of, and appreciation for, the environment of the region and the conservation challenges it offers. This has been very important to me personally as a new member.

I am looking forward to the continuation of our project next year. I would urge other branches to likewise become involved. If you can't do it on an individual branch basis put in a joint proposal with your neighbours, DoC, the local Polytech or Maori community.

**Some points to keep in mind:**

- Remember this is a youth development programme, incorporating conservation work, training and education, personal development, recreation and Maoritanga. It is NOT slave labour.
- Anything you do MUST NOT take work away from other people.
- The ideal project would have a diversity of activities and experiences with a common theme.
- Corps members are keen and motivated. It is over to you to keep them that way. They could earn just as much sitting at home watching the telly.
- The supervisor is the key person on whom the success of the project depends. Look for a person with people skills, rather than technical ability.
- Figure on spending at least 10 to 20 hours per week administering the project.
- Be very conservative with your costings. Just to be on the safe side, add 10 percent for contingencies. We have had to absorb more than $20,000 for education, recreation and Maoritanga. Don't forget about such things as postage, photocopying and advertising costs. A mobile phone has proved very useful.
- Watch running costs like a hawk.
- Be creative.

I know what you're asking yourself. Yes, it's worth the effort.

**Colin Ryder**
Project Co-ordinator

*Jason McCormick setting up the tool shed at our depot.* Photo: Chris Ferkins

*The second week on the job and the Corps members take a break from surveying the big job ahead on Mana Island, to observe a recently released pair of takahe and their new chick.* Photo: Chris Ferkins

All the Conservation Corps pilot schemes aim to facilitate the development of young people through involvement in conservation activities which will:

- protect and enhance the environment and historic heritage of Aotearoa/New Zealand;
- increase their awareness of their potential;
- enable them to evaluate their educational and career choices;
- improve their employment prospects by learning skills, including conservation skills, good work habits, communication and teamwork skills and by offering additional opportunities for learning and personal development;
- develop their knowledge and appreciation of conservation values, processes, and Maori perspectives on the environment;
- be supported by the community and be of lasting public value.

It will be a real challenge to all the sponsoring organisations to meet this range of objectives. The interdepartmental steering group responsible for overseeing the programme has every hope that the Corps members and their leaders will demonstrate clearly the merit of maintaining a New Zealand Conservation Corps.

## A Personal View

"My name is Ingrid Van Dooren and I am 17 years old. I am a member of the Wellington Regional Conservation Corps. What this means for most of the time is a lot of very physical manual work, track clearing and other activities.

Quite often I arrive home exhausted and fall asleep not long after. I wake up sore in my arms and legs and back and dash off at 7.00am with no breakfast to catch the bus to work.

The day begins on a Monday with loading the van with tools, hitching the trailer which is filled with wheelbarrows, weed killers and other things for the day's work. Once underway around 8:30, everyone settles down for the ride out to the day's work site. It may be that some people will be going to Kapiti Island and others to Mana Island or we may be all working at Pauatahanui Inlet or some other project – there is so much to do but so little time.

Before I joined the course, I was looking for some occupation involving outdoor work and I wasn't worried about how much I would get paid – which is just as well because it isn't very much, in fact it is less than the dole. I manage because I live at home and my parents provide for me, however others on the course who live away from home find it hard.

I like working with my hands, drinking fresh water from mountain streams, listening to native birds and breathing fresh air. This is more valuable to me than money I could earn working in an office. I can feel that I am becoming fitter and more skilled in using my hands and my mind.

This has been my first job straight out of school and I really didn't know it would be like this.

Chris, our Supervisor, has an important role to play not only in organizing our work but in co-ordinating many other activities within the Conservation Corps. He carries a portable telephone wherever we go and he makes us laugh when we see him standing in the middle of the bush somewhere like Kapiti Island talking on the telephone.

There are 15 of us on the course. Two people have recently joined the course to take the place of two people who have left. We all missed them when they left because we are like one big family, going away to the islands and sleeping and eating, working as a group.

I think the best week that I have had on the course so far would have to be orientation week when we went and spent a week in the Wairarapa getting to know one another. While we were there we went abseiling, canoeing, caving, tramping and swimming.

By the end of the year we will have completed some projects while others will not be completed for several years. On Mana Island the Conservation Department would like to turn the whole island into a nature reserve, to plant native trees and introduce native birds and endangered species but the first thing that has to be done is to get rid of every single mouse on the island, and I'm talking millions of mice. We are setting up bait stations across the island at 25 metre intervals.

On Kapiti Island we are digging a track about 800 metres up hill in solid rock and clay. The problem with digging tracks is that the more track you clear the further you have to carry the tools to get to the beginning of the track the next morning. Kapiti is a hard job but being there on a nature reserve makes the hard work enjoyable.

I am also looking after the seed propagation around the Wellington region. This involves going to places around our region collecting seeds from native trees and taking them to a nursery to start them growing so they can be transplanted on Mana Island.

We are a keen bunch of workers who believe in what we are doing and I hope that what you have read will inspire you and make you realise that the Conservation Department and Forest and Bird not only talk about conservation but are actively working to protect our natural heritage."

# A COLD HARD LOOK

*The Royal Forest and Bird Protection Society has long argued that the Government should be working towards a World Park for Antarctica. That possibility seems a step closer to reality with the recent refusal of Australia and France to sign the Minerals Convention. Alan Hemmings argues for why there should be no mining on or near the frozen continent.*

During the 1980s we have seen Antarctica emerge from the very fringes of global awareness, to become an area of major international concern. Quite apart from activities on the continent itself, the discovery of the ozone "hole" over Antarctica in 1985, drove home the fact that Antarctica was, after all, a part of the global environment and subject to the effects of human activity elsewhere.

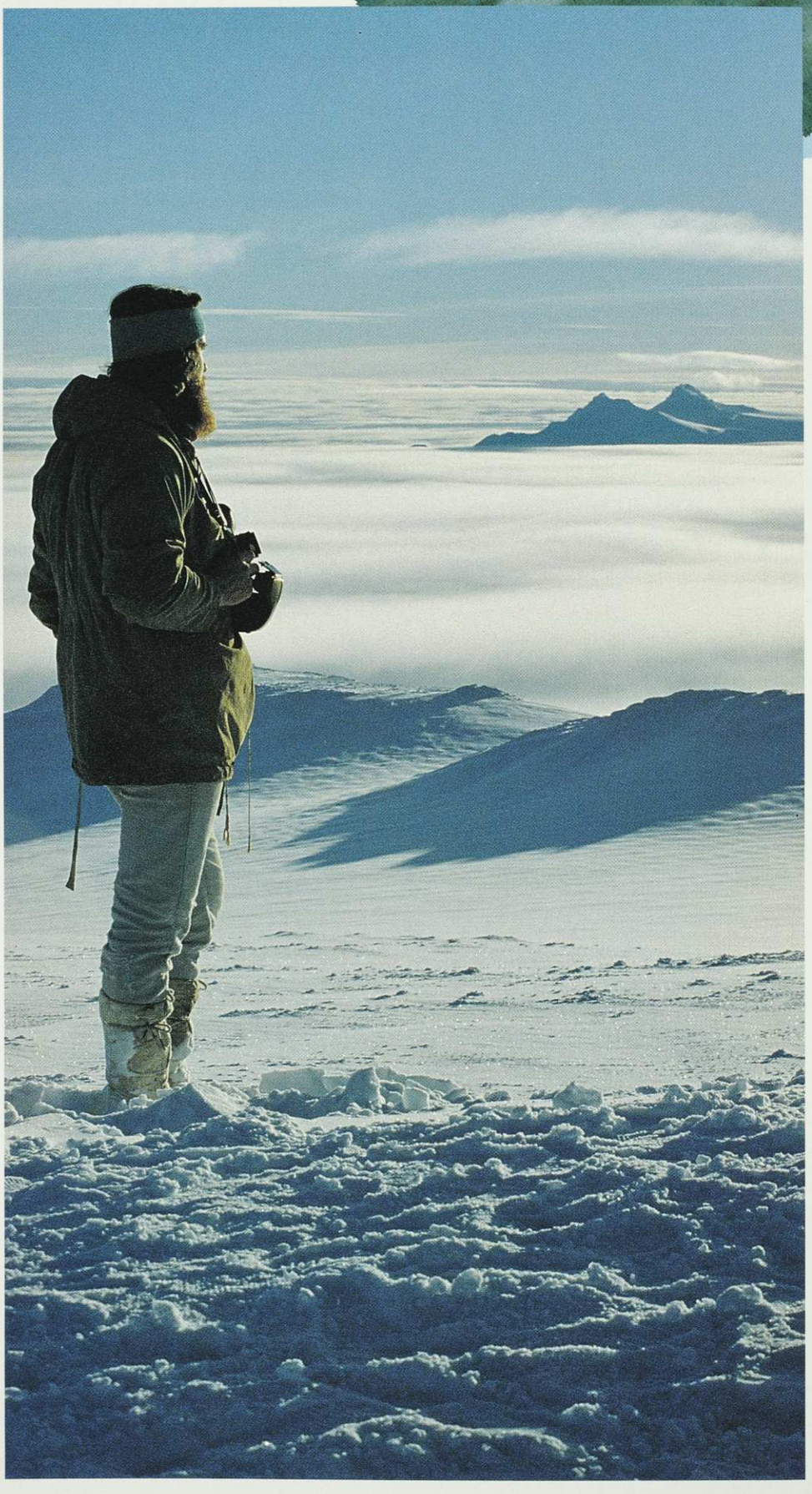
At the same time, our technological capabilities have increased to a point where some now entertain the greedy prospect of commercially exploiting Antarctica's likely minerals. Of course, exploitation prospects are not confined to minerals activities. Exploitation of the marine life of the Antarctic goes back a long way, with seals and whales, and, more recently, fish and krill taken in an almost totally unregulated manner. Antarctic tourism is a more recent development, but as tourism is now the biggest industry in the world, there will be increasing interest in this activity. Both present severe problems for the environment and conservation, but of an altogether more tractable nature than those associated with minerals exploitation.

Ironically then, we now find ourselves studying the results of our carelessness elsewhere on the planet, in the stratosphere over Antarctica, whilst preparing to behave in the same old way down below, on the continent itself. Despite all that thirty years of scientific research has told us about the fragility of Antarctica, and our experience of environmental degradation elsewhere in the world, we still seem in danger of approaching this last continent on the eve of the 21st century with the mentality of a Pizzaro.

## Record to Date

At a time when we are being asked to accept minerals exploitation in Antarctica, it is instructive to look at our record with regard to the environment there to date.

Considering the enormous size of the place, the comparatively small number of people who have been there, the purported concern with protecting the environment and the supposedly benign nature of science, it



*The Antarctic and humankind: have we the foresight to leave this fragile part of the world relatively undisturbed?* Photo: Alan Hemmings

# The threats to the environment of Antarctica

By Alan Hemmings

comes as something of an unpleasant surprise to find that we really have made quite a mess in many places.

Firstly, despite the fact that the Antarctic covers some 17 million square kilometres, a mere 2 percent of this is ice-free in the summer, forming biological "oases" around the edge of the continent. These vital ice-free areas, where the teeming wildlife and rather sparse vegetation of Antarctica is found, are, of course, also the places best suited for human activities, and herein lies a fundamental conflict.

Antarctic expeditions and their bases have invariably interfered with the local wildlife. The earliest expedition reports are full of accounts of molestation by man and dogs and although most individuals are now more sensitive to animals, the increased scale of our activities has certainly made things worse. The station I spent two and a half years at, Signy, was established in 1947 and very quickly caused the locally nesting giant petrels to desert, despite the best efforts of the few personnel. The mere presence of dogs and human activity across the bay from the breeding area was sufficient disturbance.

Over the past five years in particular, the increased number, size and complexity of modern stations has dramatically increased human impacts in Antarctica. On King George Island, off the Antarctic Peninsula, there are now year-round stations operated by different nations, giving that one small island probably the highest density of scientific stations anywhere in the world! Clearly, the scientific merits of such duplication are limited. Those stations exist primarily to stake a claim in Antarctic decision making, and King George Island has been picked because it is comparatively easy to get to. The history of recent human activity on King George Island exemplifies many of the environmental impacts seen elsewhere in Antarctica.

*Paint flaking off a building at the Soviet base of Bellingshausen – bad news for sensitive lichens.* Photo: Alan Hemmings

Following establishment of the US Palmer station at Anvers Island in the mid-sixties, the Soviets built Bellingshausen on the Fildes Peninsula of King George Island. The Chileans, who, like the British and Argentines, claim the area, felt obliged to build a station right alongside the Russian station. Both stations were built in a biologically rich area then being designated as a Specially Protected Area. Construction and base activities, such as pollution of the area's lakes, caused that designation to be reduced and then lost. None of the Antarctic Treaty countries moved to uphold the theoretically binding Agreed Measures of 1964 which set up Specially Protected Areas. The Chileans built an airstrip and a second station behind the first, allowing Hercules flights from Punta Arenas and constructed a Hotel-cum-Conference Centre and housing for a small colony of Chilean families.

## Chinese Ran Amok

In the 1984/85 summer, during the establishment of their Great Wall station, Chinese personnel ran amok, smashing birds' eggs, breaking skuas' wings, placing broken glass in nests and so on. This was carefully documented by a West German scientific group, whose own equipment was also interfered with. This occurred just before the Chinese applied to join the Antarctic Treaty, yet their application was accepted without murmur of protest at these actions, which constituted a clear breach of the theoretically binding Agreed Measures for the Conservation of Antarctic Fauna and Flora.

Similarly, the construction of an airstrip by France at its Dumont d'Urville station has proceeded without any serious protest from other Antarctic Treaty states. Indeed, a recent

*Tit for tat diplomacy: Chilean and Soviet bases adjacent to each other on King George Island. The area they are built on was in the process of being designated a Specially Protected Area in the 1960s but desecration of the environment put paid to that.* Photo: Alan Hemmings

press release from the French Embassy in Wellington actually claimed their construction was carried out "with the full approval of the Antarctic Treaty partners", although Russell Marshall has since told me in a letter that this "is not correct". Although the d'Urville airstrip is the best known, others appear to be in the pipeline. The British, after the most cursory of environmental evaluations, are hoping to build a hard strip at their Rothera Station; the United States has looked at the feasibility of a strip at Marble Point, some 50 miles from McMurdo, and Australian commercial groups are looking at strips that would allow them to fly tourists in. The prospect of increased air traffic to and from Antarctica, together with the expectations that minerals exploitation and tourism generate, has led to a number of cities marketing themselves as "Antarctic Gateways". Here in New Zealand Christchurch hopes to build on its long association with the Antarctic in this way and Hobart (Tasmania), Punta Arenas (Chile), Ushvaia (Argentina) and Mount Pleasant (Falkland Islands) are being touted in a similar manner. The merchandising of Antarctica has begun.

On paper at least, the Antarctic Treaty and subsequent agreements (constituting the Antarctic Treaty System) may look to provide rules to protect the wildlife and plants of Antarctica. In practice however these "rules", which include agreements covering seals and marine living resources (but not whales) in addition to the Agreed Measures, and a great number of Recommendations, are left to individual states to interpret. Each nation operating in Antarctica is its own judge when it comes to interpretation of these agreements, indeed they are drafted to allow this. This is a fundamental flaw in the current system. Whenever anyone points to an apparently clear branch of any element of the environmental agreements (and this is always left to a non-governmental organisation) there is always an escape clause, which legitimises whatever has been done. If one were to accept the official line, it would appear that there has not been a breach of any environmental provision in the history of the Treaty. Obviously this is nonsense.

## Wastes Pernicious Problem

One of the most pernicious problems throughout Antarctica has been the fate of the wastes produced at the Antarctic stations and by field parties elsewhere. Wastes, ranging from sewage, through chemicals, discarded food, batteries, packing cases and defunct machinery and vehicles require sensitive disposal. In the vast majority of instances, there is no reason why the wastes cannot be totally removed from Antarctica. The reality is that much, probably most, of it is still disposed of in the Antarctic, often in a manner contrary to that agreed by the Antarctic Treaty parties.

At their biannual meeting in Rio de Janeiro in 1987, the Antarctic Treaty Parties agreed on Recommendation XIV-2, concerning Environmental Impact Assessment. Before an activity in Antarctica, states were to carry out an Initial Environmental Evaluation to determine whether the activity would have a significant impact. If it would, the state is to carry out a Comprehensive Environmental Evaluation, on the basis of which it then decides whether to go ahead with the activity. As has been the case throughout the Antarctic Treaty System, each state is left to be its own judge on these matters. Nonetheless, even this requirement seems to have been flouted by the Chinese in the process of building their second station in Prydze Bay during the 1988/89 summer. When they set out on their expedition they announced that they were looking for a site in that region, but since they had still not actually selected it they could hardly have carried out any prior environmental evaluation. Naturally, they built their base and everyone looked the other way.

In the May issue of *Forest & Bird* I looked at the animals likely to be affected by the pollution from the Argentine ship *Bahia Paraiso* and the Peruvian ship *Humboldt*. Since those ships came to grief, we have seen the *Exxon Valdez* disaster in Prince William Sound in the Gulf of Alaska, an ugly forewarning of what can happen in Antarctica too if oil exploitation occurs there. If that spill, on the doorstep of the most technically sophisticated nation, can cause such widespread devastation, and prove so far beyond the available resources, it is not difficult to appreciate the scale of the disaster should it occur in an area as remote as Antarctica. Yet despite these recent experiences, New Zealand still does not have even a contingency plan for dealing with any sort of oil spill in the Ross Sea, its immediate area of interest.

The major international convention dealing with oil pollution at sea is the 1973 MARPOL Convention (there are no provisions under the Antarctic Treaty System dealing with oil pollution). New Zealand has signed MARPOL but not yet ratified it. According to the Ministry of External Relations and Trade, the Ministry of Transport is working to ensure ratification by the end of 1990. Yet, even this convention is of limited use in Antarctic waters. Many of the parties to the Antarctic Treaty are not signatories (there is no obligation to accede to MARPOL before entry to the Antarctic Treaty System). Further, under MARPOL's Article 3, the vast majority of ships likely to operate in Antarctic waters are effec-

Top: *Beauty on ice: although Antarctica can be unforgiving to humans, we ultimately pose a much greater threat to the continent than it does to us.* Photo: Alan Hemmings
Bottom: *Despite a convention to protect seals, Crabeater seals are still killed to feed dogs in Antarctica and for so-called scientific sealing programmes.* Photo: Alan Hemmings.

tively placed outside the convention. This article reads: "The present Convention shall not apply to any warship, naval auxiliary **or any other ship owned or operated by a state** and used, for the time being, only on government non-commercial service" [emphasis added]. Since most ships operating in the Antarctic are "owned or operated by a state" this clause critically weakens the convention in Antarctica.

If this is the situation when the only legitimate activity is science, the prospects seem altogether bleaker for Antarctica if we allow minerals exploitation to go ahead.

Since 1982, the states involved in the Antarctic Treaty have been negotiating a regime to allow minerals exploitation in Antarctica, and New Zealand has played a leading part in this effort through the chairmanship of Chris Beeby of the Ministry of External Relations and Trade (MERT). The resulting convention, the Convention for the Regulation of Antarctic Mineral Resource Activities (CRAMRA), has been roundly condemned by just about every environmental organisation in the world, most of the household names in the international environment movement (Sir Peter Scott, Jacques Cousteau, David Bellamy, etc) and a substantial part of the scientific community familiar with the continent and its seas. In April, these voices were joined by the French government and in May by the Australians, both of whom announced that they would not ratify the convention because it would not secure adequate protection for the Antarctic environment.

## Scramble for Resources

Essentially, and notwithstanding MERT statements to the contrary, CRAMRA is a minerals exploitation document, and far from regulating an inevitable "scramble" for resources, it actually causes that scramble. To understand why this is the case, we need to consider the political circumstances of the continent. Antarctica is in a curious limbo, politically. Seven countries (Argentina, Australia, Chile, France, New Zealand, Norway and the United Kingdom) claim sectors of the continent, and three of these (Argentina, Chile and UK)) overlap. Nobody else recognises these claims, and importantly, this includes both the United States and the Soviet Union. To complicate this further, the United States and the Soviet Union reserve the right to make their own claims.

A way out of this impasse was found in the 1959 Antarctic Treaty, which, to use the usual expression, "froze" all claims and activities which might enhance or reduce any such claims, for the duration of the Treaty. This was achieved by substantially limiting military activity in Antarctica, by free access to all parts of the continent at all times, and by the development of science as the one legitimate activity in the area. By comparison with other parts of the world, this regime has been fairly successful. It has, however, left unresolved the underlying problem – sovereignty. And this takes us back to the minerals convention. Exploration and exploitation of minerals resources in Antarctica, whether it occurred now, in ten years time or 30 years time, would be enormously expensive. No oil company, or hard rock mining corporation, is going to invest the billions of dollars perhaps over many years required to find those minerals unless they can be sure that they are going to reap the financial rewards. The last thing Shell will want is to spend eight years and $20 billion finding a commercial oil reserve only to find Exxon, Phillips Petroleum or Petrobras plugging in alongside them just when it looks lucrative. The oil companies want secure and preclusive property rights to a particular area before they will consider exploitation. So, the negotiation of a regime which allows exactly this allotment of secure property rights facilitates the very thing it purports to control – minerals exploitation – with the inevitable pollution and degradation of the Antarctic environment.

## Convention Effectively Scuppered

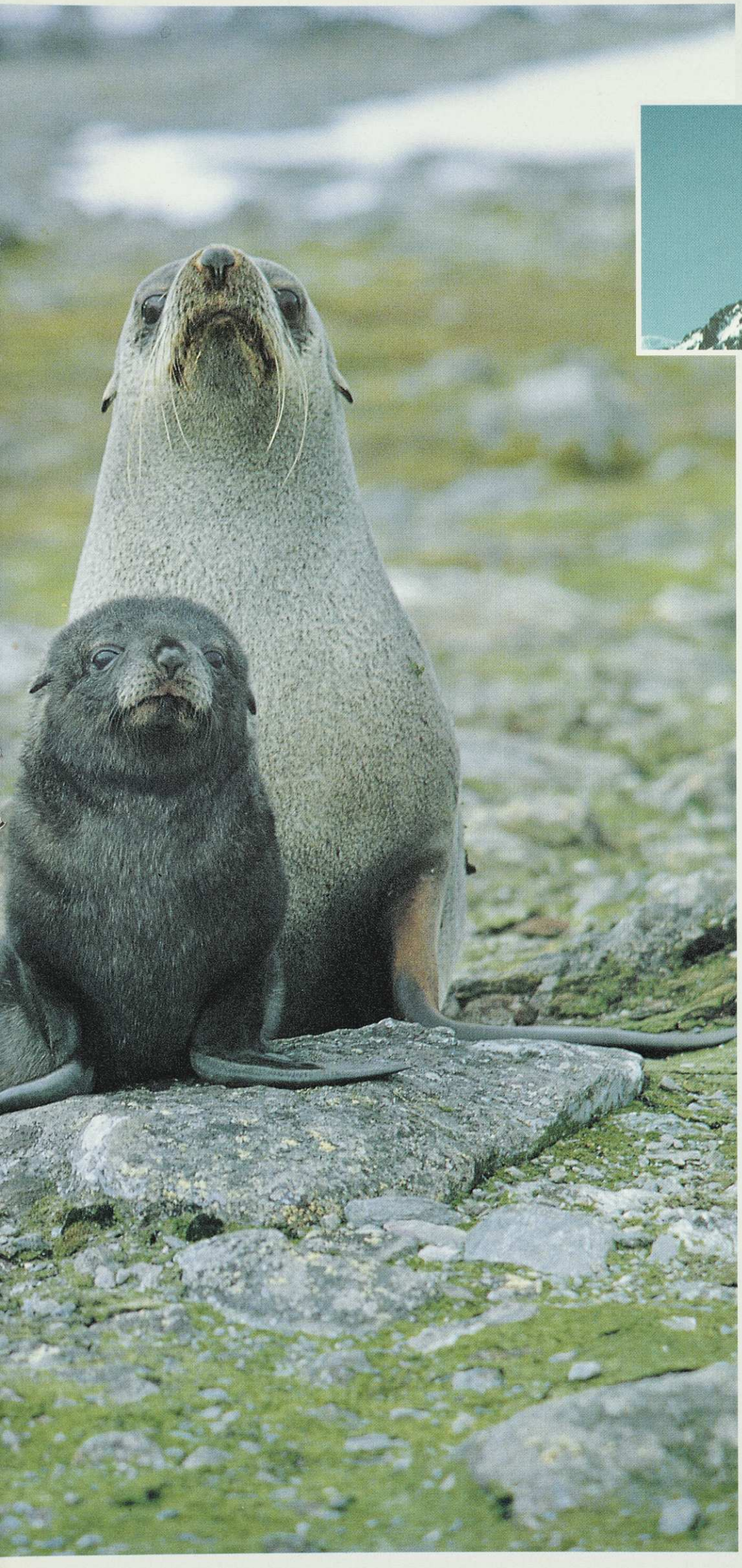
Nonetheless, the Convention was largely completed in Wellington in June 1988 (important protocols, too hard for resolution then have still to be sorted out) and is open for signing until November 1989. In order for the Convention to come into force, all seven countries laying claims to parts of Antarctica, plus the United States and the Soviet Union, must sign. Thus, the rejection of CRAMRA by France and Australia effectively scuppers the Convention as currently envisaged. These countries have proposed some sort of World Park or Antarctic Treaty Park status instead, the option advocated for so long by Greenpeace, the Antarctic and Southern Ocean Coalition and a host of others concerned for the preservation of the Antarctic. Australia has proposed that the Antarctic Treaty partners proceed to negotiate an Antarctic Conservation Convention.

Ironically, and as we have been often reminded by MERT over the past few years, New Zealand itself advocated World Park status for Antarctica back in 1975. According to Chris Beeby, that option was not greeted with much interest at the time and the parties to the Antarctic Treaty decided instead to develop a regime which would allow exploitation.

A week may be a long time in politics; 14 years is an eternity in international politics. The facts are that we are now in a different world to the oil-shocked mid-seventies, the many and various environmental threats to our planet are finally dawning on us and the "green" voter has become a potent force. New Zealand now finds itself backing the wrong horse. When even the French are concerned that the Antarctic environment is at risk, surely New Zealand, of all countries, needs to reassess its position.

For those of us concerned to secure the

Bottom: *For this Weddell seal and her pup, born in the depths of the winter, the problems lie not with the rigours of the environment, but with our plans for the Antarctic.* Photo: Alan Hemmings. Top: *Garbage at McMurdo. There is no reason why waste cannot be removed from Antarctica, but countries are unwilling to do so.* Photo: Simon Towle



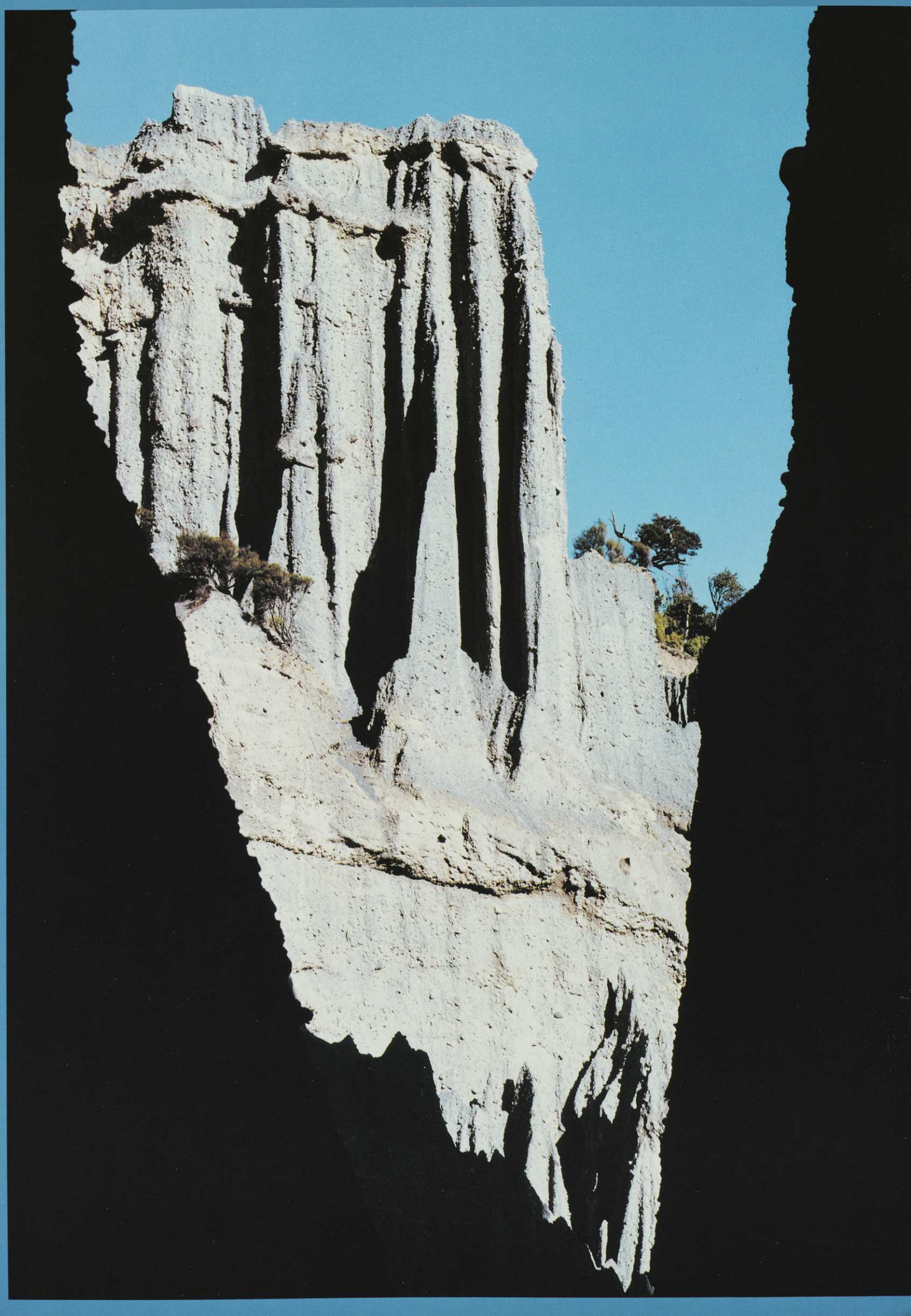
Below: *With a six foot wingspan, the southern giant petrel has no natural enemies, but human disturbance around a number of stations has caused them to desert their nests.* Photo: Alan Hemmings

Left: *This female Antarctic fur seal and pup are part of a population only now recovering from the near extermination of early 19th Century sealing.* Photo: Alan Hemmings. Opposite top: *Courting snow petrels: the most southerly, and exquisite, of birds.* Photo: Alan Hemmings. Opposite middle: *Penguins, such as these Chinstrap penguins from the Antarctic Peninsula, may lose their coastal breeding grounds to mining settlements if exploitation is allowed. In places they may already be competing with fishing vessels for their staple food — krill.* Photo: Alan Hemmings. Opposite bottom: *The most southerly breeding grounds of the elephant seal are at Anvers Island, scene of the recent* Bahia Paraiso *oil spill.* Photo: Alan Hemmings

future of the Antarctic as a place of unsullied and exquisite beauty, the next few months will be critical. We have to persuade the Government that it cannot proceed with the minerals convention and that it should instead be advocating the total protection of the continent through an Antarctic Treaty Park. With a commitment to compliance with stringent environmental standards, (and this probably requires the establishment of an international Antarctic environmental protection agency of some sort) this could allow the continued use of the Antarctic as a natural laboratory for the study of both specifically Antarctic topics and globally important issues such as climatic change and pollution.

If we want this to happen, we have now to persuade our Government not only to join France and Australia in rejecting the minerals convention, but to actively promote a comprehensive environmental regime for the continent as a matter of some urgency.

*Alan Hemmings has spent the past ten years working on Antarctic, Sub-antarctic and Southern Ocean biology. His zoological research has been principally concerned with skuas, in Antarctica and, more recently, on the Chatham Islands from the Zoology Department of the University of Auckland. He currently works in the Antarctic Policy Group in Environmental Science at the University, where he is involved in Antarctic environmental policy development, including an examination of Antarctic environmental policy for the Ministry for the Environment. Previously, he worked for the British Antarctic Survey for four years, including two-and-a-half years in Antarctica, and was commander of the British biological station at Signy Island. Last year Forest and Bird provided financial assistance for his attendance at the Fifth SCAR Symposium on Antarctic Biology, where he delivered a paper on human impacts on skuas.*



By Bruce Hayward

# SAVING THE LANDFORMS AND ROCKS

*A new thrust is underway to protect important geological sites in New Zealand.*

To ensure the survival of the best examples of the geological features and processes found in this country – many of which are under threat – the New Zealand earth science societies have begun compiling an inventory of all nationally and regionally important areas.

The aim is to identify and then ensure the protection of a full cross-section of the natural landforms, geological features and soil types which best characterise each part of New Zealand.

## Urgent Action Needed

Only rarely do most people think of conservation of our landforms, yet like our biotic heritage these have also suffered greatly at the hands of modern technology and increasing population pressure. Many still require vigilance or urgent action to save them.

To date a somewhat random group of mostly spectacular landforms have found their way into the protected lands of the Department of Conservation or into local body reserves. Examples include Rangitoto, Waitomo, Ketetahi hot springs, Mt Egmont/Taranaki, Punakaiki rocks, Fox and Franz Josef glaciers, Milford Sound and Moeraki boulders.

Over the past 15 years, ten scientific reserves have also been established – Turakirae Head, Red Rocks (both Wellington), Chancet rocks (Marlborough), White Creek fault (Nelson), Target Gully shellbed and Hutchinson's quarry (Oamaru), Curio Bay, Otapiri Stream, Te Anau and Clifden (Southland).

Once again the selection and establishment of these reserves has been rather random. The Southland reserves resulted from the actions of a keen enthusiast within the old Lands and Survey Department; several of the others were established after long campaigns to save the sites from immediate threats of destruction by quarrying or fossicking (see insets).

By contrast, the new inventory has been divided into a number of categories, each of which is being compiled and assessed on a national basis using the combined experience and knowledge of the New Zealand earth science community.

Features selected will illustrate the different stages of New Zealand's geological history and the physical processes which have combined to produce its present landscape.

To date over 1,500 sites have been identified, documented and entered in the computerised data base. Categories so far completed are fossil sites, earthquake-related features, geothermal fields and Quartenary volcanoes and volcanic features (younger than two million years). Others underway include sedimentary rocks, older volcanic rocks, caves and karst, soils and geomorphological sites.

Each listed site has been given ratings based on its scientific and educational value and its vulnerability to modification or

*Two of the three most spectacular examples of badlands' erosion in New Zealand have recently been given legal protection. Putangirua Pinnacles, Wairarapa (above and opposite) is in a conservation park and Omarama badlands, north Otago have a QEII National Trust Open Space Covenent.* Photo: Lloyd Homer

destruction by human activity. From these ratings a list is being drawn up giving priority for protection. The information from this inventory is formatted so that it can be easily combined with information from the PNA programme, Wetlands Inventory and NZ Archaeological Association site register, when assessing areas of New Zealand for protected status.

Because earth science features in New Zealand cover such a diverse range of types and sizes and are threatened by a vast array of human activities, they require a broad range of management measures.

## Wide Range of Features

Features range in size from volcanic mountains (Egmont National Park) to single erratic boulders (Te Anau scientific reserve). They may be glacial cirques at the top of the Southern Alps or fault scarps beneath Cook Strait; a vast underground cave network beneath Mt Arthur or a few square metres of unmodified soil beside the road in central Hawkes Bay; examples of destructional or constructional landforms (Ruamahunga landslide and Farewell Spit); the oldest fossils in New Zealand (Trilobite Rock, Northwest Nelson) or the type locality of the rare mineral tuhualite (Mayor Island).

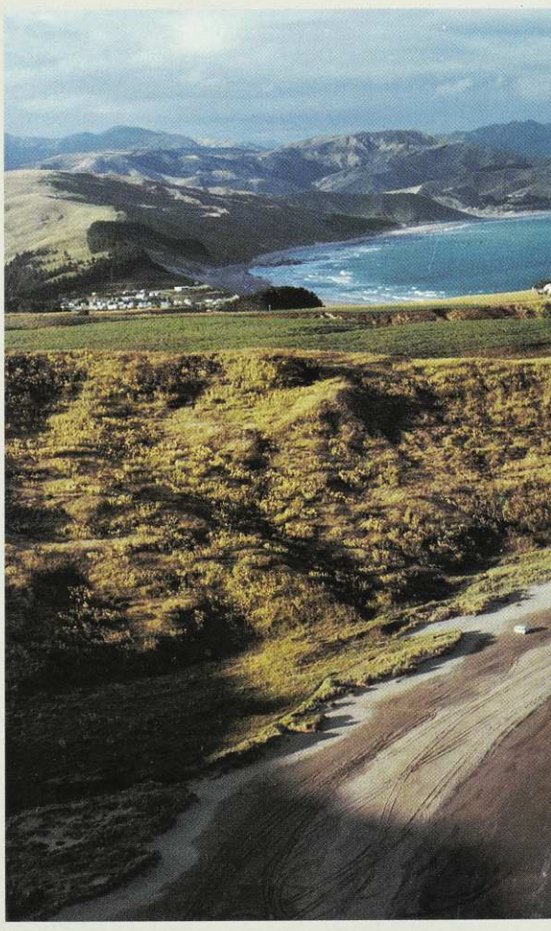
They are threatened, modified or destroyed by almost everything we do to the land – forest clearance, afforestation, reclamation, erosion control, ploughing, housing subdivisions, recreational development, mining, agricultural practices, dams, roads, wetlands drainage, flood control and so on.

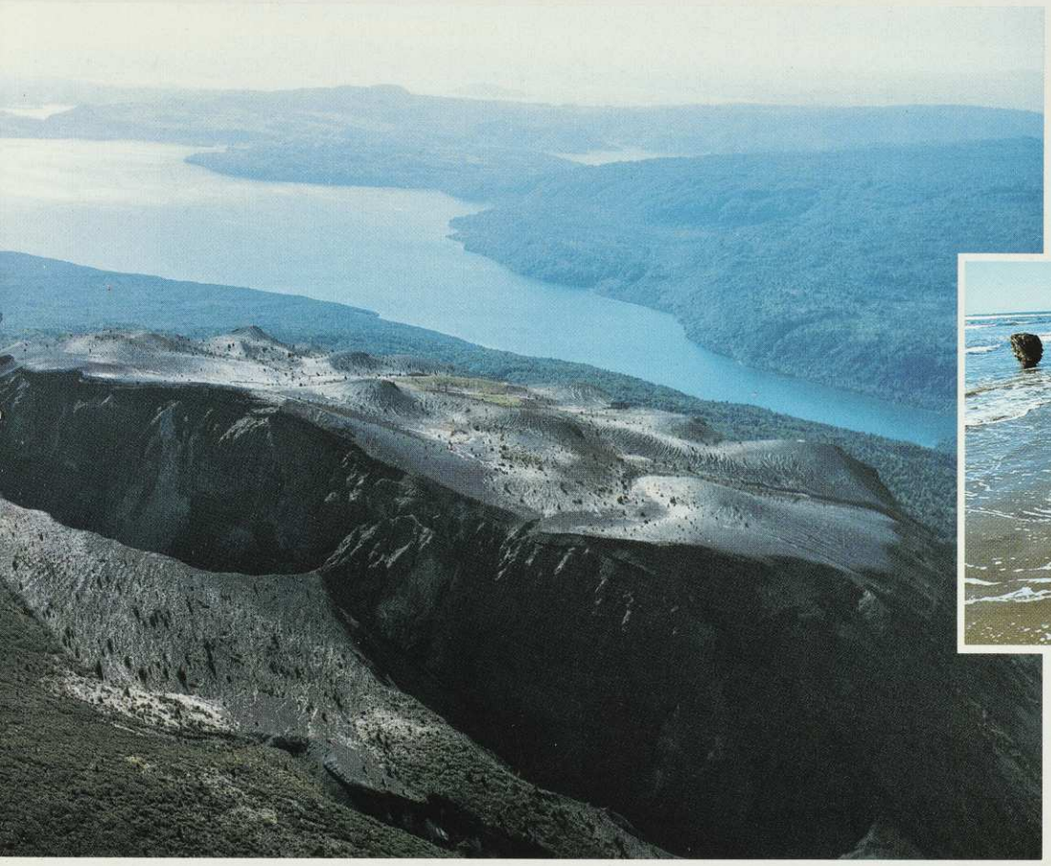
So much has gone that the time has come for us to identify those features and sites we must protect from destruction by these activities.

The best form of protection for many of our

*Muriwai pillow lavas on the west coast of Auckland were threatened with complete removal in the early 1970s with the planned enlargement of the existing aggregate quarry. Several years of campaigning by local residents and the Auckland branch of the Geological Society brought all quarrying to an end and they are now protected within a Regional Park. These are probably the best displayed example of submarine pillow lavas anywhere in New Zealand. They were erupted onto the seafloor on the lower slopes of the Waitakere volcano, 16 million years ago.*

Photo: Bruce Hayward





*The 1886 eruption of basalt scoria and ash from this long rift down the centre of a number of rhyolite domes that form Mt Tarawera is of international scientific importance. It is also of major significance to New Zealanders as the site of this country's most destructive eruption in historic times. It is of concern that the mountain and rift have no legal protection and it is already scarred by a bulldozed road to the summit and a cleared landing strip.* Photo: Lloyd Homer

*These 8000-year-old tree stumps poking out of the sea at the mouth of the Kaiwhata River on the Wairarapa coast provide an irreplaceable and visually striking record of an ancient totara forest that flourished here when the sea level was considerably lower than today. Following the last Ice Age, the advancing sea probably killed the forest. The totara remains are not protected.*
Photo: Lloyd Homer

*The Castlepoint area on the east Wairarapa coast features some spectacular coastal landforms composed of geologically-young (2-5 million years) fossil-rich marine sedimentary rocks. They are protected within the DoC estate.*
Photo: Lloyd Homer

landforms is by retention or return of their original natural vegetation, although some smaller landforms will lose much of their educational and scientific value if forest is allowed to return.

Similarly, protection of examples of most of our active geological systems and features (eg, sand dunes rivers, glaciers) is best afforded by as little interference by humans as possible.

Many geological sites are natural exposures of rock in bluffs, seacliffs and river banks that rely on a steady rate of natural erosion to retain a fresh face. These sites are threatened by developments that reduce the erosion or river flow rates.

Other important geological sites are in man-made exposures of rock, especially in quarries and rail and road cuttings. These often weather rapidly or are quickly obscured by vegetation, often promoted by hydroseeding. Old quarries are also favoured for rubbish

disposal or recreation lakes. Protection of these sites require measures that prevent their obstruction by rubbish or vegetation.

There is a clear need to move away from the old path of random protection of sites, selected by pure chance or by their imminent threat of destruction.

We also need to review the previous practice of protecting all scientifically important geological sites by Crown purchases and locking them up in scientific reserves. The strict controls that come with such status may suit a few fragile sites but many others are robust enough to withstand normal educational and scientific study without requiring a bureaucratic permit system. These sites merely need protection against modification and destruction by activities such as road widening, farm bulldozing and stock trampling. Conversely others may require management such as sheep grazing, vegetation spraying and periodic bulldozing to retain the sites' values.

Such measures have yet to be accepted practice in scientific reserves in this country, although they are becoming commonplace in other parts of the world.

To help promote the concept of earth science conservation, the Nature Conservation Council has recently published an information booklet titled "Landforms and geological features: a case for preservation". It is available for $3.50 from the NCC, P O Box 12-200, Thorndon, Wellington.

## Red Rocks, Wellington

*One of the justifications given by an official for removing rocks from Red Rocks near Wellington was that they would be more accessible to people! Many of the distinctive rocks can be seen decorating parks in the capital.* Photo: Gerard Hutching

Red Rocks Scientific Reserve, on the coast west of Island Bay in Wellington, contains the most easily accessible and best example of pillow lavas (submarine lava flows) within the greywackes that form much of the backbone of New Zealand.

They are an educational and research resource visited by many students and scientists every year.

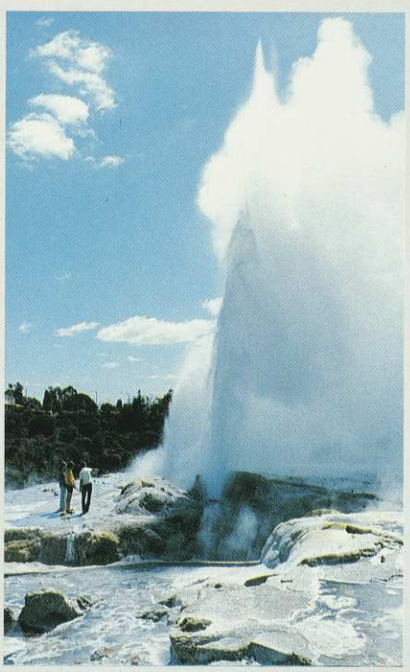
This small exposure of rocks occurs close to an extensive aggregate quarry, but had been protected from damage during the 1960s through an informal agreement negotiated by the Victoria University Geology Department. In the early 1970s quarrying was extended into the cliffs behind and the foreshore pillows buried by debris. Rocks from the site began appearing as decorative pieces in Wellington city parks. In an effort to save the site, the Geological Society mounted a campaign, with the assistance of the Nature Conservation Council, and through planning hearings and a direct approach to the Minister of Lands was successful in having a scientific reserve gazetted in 1972.

## Geothermal Areas and Whakarewarewa

Somewhat less successful so far has been the campaign to save New Zealand's remaining surface geothermal areas, in particular the last of our geysers. Slight modification of a geyser's vent or of ground water levels can be sufficient to cause its extinction. Thus geyser systems are fragile and unfortunately now also rare and precious. They occur in only seven countries worldwide and are easily accessible only in New Zealand, Iceland and the United States. Indeed, New Zealand's geysers, rivalled only by those at Yellowstone in the USA, are the most impressive in the southern hemisphere.

Last century there were over 130 geysers regularly active in five major geothermal fields in the Rotorua-Taupo area. One field was buried by the Tarawera eruption; Orakeikorako was drowned by damming the Waikato River; Wairakei and Spa fields have been destroyed by geothermal electricity projects and now at Whakarewarewa many geysers have ceased because of extraction of groundwater by Rotorua city bore users. Today, fewer than 15 of the original 130 geysers remain active – eight are at Whaka.

Ten years ago the Geological Society prepared an assessment of the remaining values of the 88 geothermal surface fields in New Zealand. The resulting Nature Conservation Council report recommended complete protection of Whakarewarewa, Waimangu, Ketetahi and White Island fields and the deferral of any exploitation of seven others which had significant discharge features, such as mud pools, fumaroles and hot springs.



*New Zealand's most fragile and threatened geological process systems are our geothermal fields and their surface features. The activity of Pohutu Geyser at Whakarewarewa had been waning for many years before picking up significantly since the government-imposed bore closures.* Photo: Lloyd Homer

Since then the Geological Society, Environmental Defence Society and others have waged a long, arduous but consistent campaign to have Waimangu and Whakarewarewa features protected by a complete ban on extraction of the underground resource.

At long last the Government has recognised the international values of Whakarewarewa with the implementation of its bore closure policy last year. Whaka has responded and appears to be temporarily saved at least, although many of the citizens and local politicians of Rotorua appear determined to see its demise. Many bore owners are circumventing the intention of the closedown by sinking shallower bores and extracting nominally cooler groundwater. Rotorua Hospital has once again turned on its bores to supply free heating, undoubtedly at the expense of the rejuvenating activity in Kuirau Park across the road.

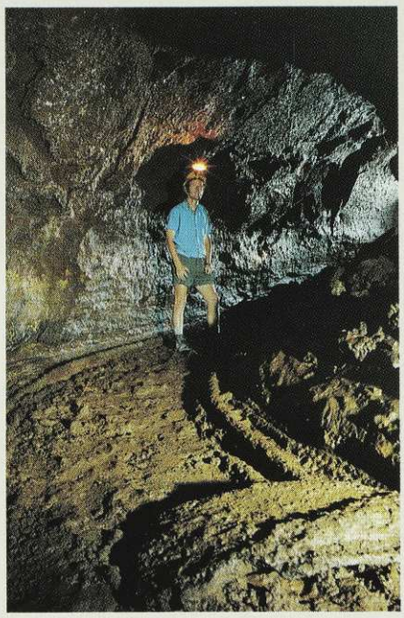
If New Zealand's last geyser field is to be saved, then the people of Rotorua will have to pay to heat their homes, motels and spa pools in place of their previous free geothermal supply, but in the long term Rotorua and New Zealand will be the winners from it.

# Wiri Lava Cave, Auckland

The 15-year campaign to save Wiri lava cave in South Auckland highlights the damage suffered by landforms of the young Auckland volcanic field since human colonisation.

Much of Auckland City's beauty and character is derived from its volcanic landscape centred on the 50 or so scoria and tuff cones formed by periodic eruptions over the last 100,000 years, yet in the last 150 years not one has escaped untouched by human vandalism. Many have their craters and peaks modified by reservoirs, playing fields and parking areas, their lower slopes pockmarked by abandoned quarries and covered in suburban housing and apartment blocks. Some, such as the Three Kings and in Manaukau City have been harder hit and are now remembered through the aggregate they provided to the city's roads and concrete edifices.

Basalt lava flows such as those erupted in the Auckland field, sometimes enclose unusual lava caves, formed when molten lava inside continues to flow out leaving an elongate cave. Lava caves still survive on Rangitoto and in the One Tree Hill, Onehunga and Mt Eden areas, but by far the best surviving example is at Wiri, Manurewa.



*Lava that flows in "streams" down the gentle slopes of a volcano rapidly cools on the outside to form a solid crust. The hot liquid lava inside may continue to flow out to leave a hollow lava tube or cave, such as this one at Wiri, Auckland. Negotiations are presently proceeding to secure this important landform from destruction by quarrying – the culmination of a 15-year campaign to persuade the owners, Railcorp to do so.* Photo: Lloyd Homer

In the early 1970s, the Geological and Speleological Societies jointly approached the owners, NZ Railways, asking them to protect this cave from damage by blasting in the nearby railways' quarry. NZR refused to negotiate formal protection, although Manukau City listed it on their District Scheme and invested thousands of dollars in its protection by strengthening the road that passes over it.

On several occasions in the 1980s, vigilance by local speleologists has saved the cave from destruction by encroaching quarrying activites, as swift pleas to government ministers brought temporary reprieves.

The case came to a head in 1987 as Railcorp prepared to realise its aggregate assets by sale or lease of the whole quarry, including the cave, to private enterprise. Lobbying by the Speleological and Geological Societies brought local media and television coverage and greater support than previously. This initiated a drawn-out period of negotiations between Manukau City, DoC, Railcorp and others, which recommended some form of permanent protection, but as yet no action has resulted.

# Minding the New Zealand Dotterel's business

By Ann Graeme, Forest and Bird Bay of Plenty Conservation Officer

New Zealand dotterel chick and egg

Variable oystercatcher

White fronted tern

*Illustrations: Helen Harrison*

Along the east coast of the North Island from Northland to the Bay of Plenty are many estuaries, large and small. These estuaries characteristically run out to the ocean through a narrow entrance, protected by a sandspit.

To the endemic New Zealand dotterel, these spartan sandspits are prime Real Estate, their most favoured breeding sites. They provide bare sand with all round visibility where the bird's camouflaged eggs lie in the merest scrape of a nest. The sandspit also offers excellent feeding for the parents and chicks. They can forage for sandhoppers on the ocean beach, or when the weather is rough probe the softer sand on the sheltered estuary side.

However, this same real estate is also most favoured by holidaymakers. Many of the best dotterel spits now adjoin sprawling bach communities, and the lonely sand is now trampled by children, dogs and dune buggies. Even more remote sandspits are within range of trailbikes and buggies with their companion dogs. This invasion together with natural mortality has led to an alarming lack of breeding success for the NZ dotterel and for the variable oystercatcher which nests with them. The NZ dotterel population is estimated at fewer than 1,300 birds and oystercatcher numbers about 2,000. Both populations are in decline.

What can we do to enhance their survival?

## Beginnings

In Waikato Forest and Bird began a project to protect the Wharekawa Wildlife Reserve just north of Whangamata on the Coromandel Coast. An area of sandspit was rope-fenced and signposted, and Waikato Forest and Bird financed a warden to "mind" the birds and record the nestings. In previous years no chicks were reared but after two seasons of protection 15 NZ dotterel and nine variable oystercatchers were fledged. The Department of Conservation now maintains and staffs the Wharekawa Spit, and a similar project at Waikawau Bay. Auckland and northern branches have also supported dotterel protection in Northland, particularly in Mangawhai.

This '88-89 summer Eastern Bay of Plenty Forest and Bird decided to set up a similar bird minder project at Ohope spit. The branch had scarcely any funds at their disposal, and the project would rely entirely on voluntary efforts. While volunteer "minders" were coordinated by chairman John Lees, the setting up of the project depended on the enthusiasm and initiative of Ohope members Helen and Adrian Harrison.

In November 11 hectares of dune and sand spit were fenced using posts lent by the Whakatane District Council, 1.8 km of red binder twine provided cheaply by a local firm, ice-cream container plastic fence signs and homemade notice boards. Geoff Moon supplied bird photographs, encased in plastic by a Forest and Bird member to incorporate on the notice boards. The Whakatane Council loaned a wooden hut which was towed to the edge of the fenceline and provided essential shelter from sun, wind and rain. An information handout was prepared and 600 copies donated by the Whakatane Council. Both the council and the Whakatane DoC enthusiastically supported the project and provided staff to help put up the fence.

It was a big effort, but the monetary cost of $41 was minimal. Best of all, the project was reported in the national newspapers, and reached the local community through the local newspaper where it was front-page news on three occasions. In December an "Open Day" was held and school parties were told about, and shown the project.

## Roster of Minders

A roster of "minders" – Forest and Bird members and locals – "minded" the fence particularly in the holiday season, distributing the information sheets and explaining the project to passers-by.

What did the project achieve?

Because the fenced area was so large it was difficult to accurately assess how many pairs were breeding – an estimated 10 pairs of NZ dotterels, and eight pairs of variable oystercatchers. In December numerous chicks were seen and nine NZ dotterel chicks counted, but the atrocious weather over Christmas and New Year made sightings difficult and probably increased chick mortality. However, by January many small groups of NZ dotterel and variable oystercatchers were together, presumably parents with "teenage" chicks.

Other species also benefited in the protected area. Six pairs of banded dotterels nested within the compound and flocks of more than 4,500 godwits and other migrants roosted undisturbed. Had the fence been erected earlier it would have benefited the white-fronted terns which in September had repeatedly tried to nest but had been driven away by motorbikes.

Banded dotterel

New Zealand dotterel eggs

New Zealand dotterel

*A two-week-old New Zealand dotterel taking its first shaky steps into the world. Thanks to our warden project the future of this and other dotterels is looking up.* Photo: Brian Chudleigh

Godwit

White fronted tern

Probably more important than the achievement of a small number of fledglings has been the education and response of the community. Our volunteer "minders" have no powers to order people to respect the flimsily fenced sanctuary. We relied solely on public goodwill, and scarcely ever met opposition, nor was the sanctuary abused. Although the Ohope Spit has long been a Wildlife Reserve where dogs are forbidden, it used to be a popular place to walk the dog. In the early days of the project our requests not to take dogs along the spit surprised many people and annoyed a few. Now people seem to accept the restriction. Similarly the only occasion when the sanctuary was breached by a dune buggy happened within a day of the fence being erected. Since then no dune buggies, dogs or people have deliberately strayed into the protected area.

Instead hundreds of people have taken our leaflet and peered over the fence to see birds of whose existence most people were previously unaware. Their enthusiasm markedly increased after they had walked around the fence.

This public goodwill has to be fostered by communication and this is where newspaper publicity, our information sheet, signposts and personal contact were so important.

It is not all plain sailing yet. Many natural and man-made hazards still threaten the breeding birds.

Stoats infest the Ohope Spit and must be killing many chicks, so constant trapping is required.

Even the best "minded" project cannot always be on duty, and at Wharekawa Spit six dotterel chicks were killed by marauding dogs on a single night. The Wharekawa Reserve

NZ DOTTEREL NATIONWIDE SURVEY

# HELP NEEDED!

**WHY?** We need vital basic information about bird numbers and location before we design further projects to protect the Dotterels.

Forest and Bird, Ornithological Society of NZ and the Department of Conservation are co-operating in a major survey to gather this information.

**HOW?** Volunteers will be trained by DoC and OSNZ. We will walk the beaches and record information on NZ Dotterels from North Taranaki, around Auckland, Northland, Coromandel and Bay of Plenty to East Cape.

**WHEN?** Anytime over a 3 week period in late October (when the birds are in their territories) and again in autumn when the birds are in flocks.

**WILL YOU HELP?** Contact your local F&B branch or DoC office for details.


*Helen and Adrian Harrison with their bird resting sign at the Ohope Spit.*

*Camouflaged eggs are one of the dotterel's few defences against a host of problems: dogs, stoats, trail bikes and general human interference.* Photo: Brian Chudleigh

*A distraction display by an adult dotterel in an attempt to lure an intruder away from the nest.* Photo: Brian Chudleigh.

## Project Update – June

In March the fence around the Ohope Spit was dismantled and a new sign has been erected, establishing the area as a bird nesting area until spring.

Recently 85 NZ dotterels were recorded in a flock on the Spit, probably the largest flock counted in recent years. It seems plausible that these flocks are important social groups where match-making takes place for the coming breeding season. In the flock was a banded bird from Waikawau some 200 km north.

Flocks of banded dotterels, variable oystercatchers and white-fronted terns are also congregating on the Spit with about 200 overwintering godwits.

This coming summer, Te Puke Forest and Bird plan to enlist the support of Maketu residents and set up a community project to protect the birds on the Maketu spit. Ohope and Maketu are the major breeding populations of NZ dotterels and variable oystercatchers in the Bay of Plenty, and their protection will significantly improve the chances for these threatened birds.

also suffered this summer when cyclone winds drove high seas right across the spit, destroying nests and chicks.

Perhaps this past season has been an aberration, but if as predicted it is indicative of the increasing tropical storms which may be associated with the greenhouse effect, the higher wider spits like Ohope may in future better reward our efforts of protection, particularly if the sea level rises.

## Black-backed Gull Menace

A particular enemy of NZ dotterel chicks is the black-backed gull. These gulls are multiplying quickly because of their ability to exploit a new and growing food source – municipal rubbish tips. The growing colony of more than 1,000 on Matakana Island flourishes at the Tauranga City Dump. They also pick off local dotterel chicks and besiege white-fronted tern colonies in Tauranga Harbour, killing all the chicks in one season. Fishermen report them attacking little blue penguins, petrels and prions.

Many ornithologists regard black-backed gulls as a growing pest species which does not warrant the protection it presently enjoys. Philosophy aside, we felt it prudent to discourage a pair of black-backed gulls that attempted to nest in the Ohope sanctuary.

Perhaps the most endearing feature of these projects is the reaction of the birds themselves. At Wharekawa Spit after three years of operation the birds appear to recognise the protection of their fenced sanctuary and are becoming accustomed to people passing by. Although outside the fence parents will try to drive or entice watchers away from their feeding chicks, within the fence they are much less aggressive, and the gangly chicks, particularly the variable oystercatcher, will rest only a few metres from the fence. In contrast the birds at Ohope retreat with alarm and decoy behaviour from passersby. However the minders report after only a few months that the birds are becoming less easily disturbed and are more readily observed from the fence.

The survival of an increasing number of species is now at the whim of people. In the case of shore-nesting birds, not just money but public sympathy is needed to protect a lifestyle which is becoming increasingly risky. Our Forest and Bird branches can play a vital role in enlisting public understanding and support for the ornithological tangata whenua of the beaches – the NZ dotterel and the variable oystercatcher.

Forest and Bird's

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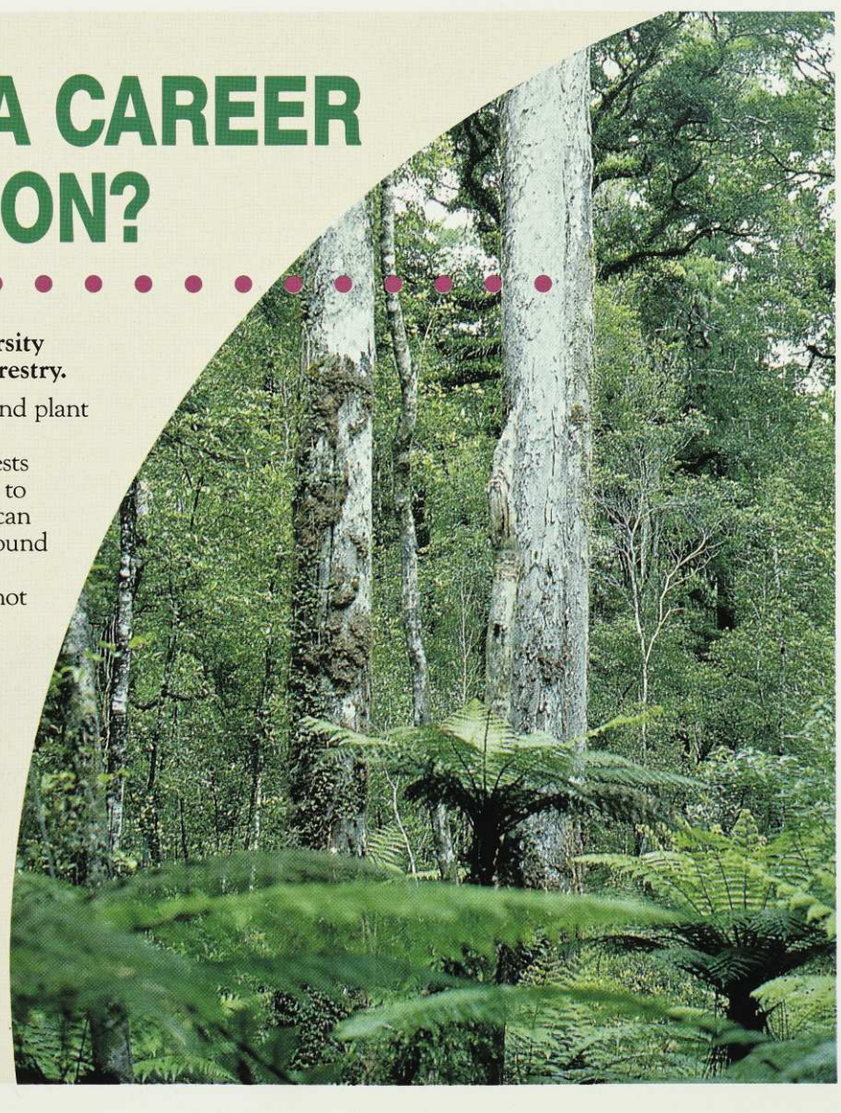
***To join the Kiwi Conservation Club complete the membership card within this magazine and send it with $10.00 to: Kiwi Conservation Club, PO Box 631, Wellington.***

# LOOKING FOR A CAREER IN CONSERVATION?



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**The Head, School of Forestry, University of Canterbury, Christchurch, New Zealand.**

THE SECRET LIFE OF THE

# Shining Cuckoo

By Brian Gill

In November 1978 I experienced a stroke of luck the like of which comes rarely during fieldwork. It was hot and sunny, and as I walked through the dry kanuka forest in my study area at Kowhai Bush near Kaikoura, the air hummed with the stridulations of cicadas.

Above the din I heard the distinctive whistling call of a shining cuckoo quite close at hand, and I went in pursuit. There is something about this cuckoo's call that makes its source very hard for the human ear to locate. It starts softly and gradually rises, so that its distance is hard to judge. Coupled with that the birds are remarkably cryptic when they perch in a tree, despite having such gaudy green colouring and boldly striped underparts.

As Eileen Duggan put it in her 1929 poem *The Pipiwharauroa (Shining Cuckoo):*

*"And I burnt my eyes with gazing.*
*Still I see the poplars shiver,*
*Still I hear the little runnels down the folded gully falling,*
*But I never saw the bird!"*

Well I persevered and was eventually rewarded with close views of two cuckoos. It's a privilege to watch such secretive and little-known birds, but to cap it off I thought I glimpsed a colour band on one bird's leg. Something to write home about? It is when you know how few shining cuckoos have ever been colour banded.

I lost the cuckoos that day, but 10 days later I found them again in the same area. Cuckoos have short legs which are tucked well in when they perch. Also the feathering extends much further along the leg than in song-birds, so it is very difficult to see the legs clearly to check for bands. I persisted for half an hour. Luck was with me and I eventually approached the birds to within 5 metres – closer than the binoculars would focus! There was no doubt – one of the birds had a metal band on its left leg and one red plastic band on its right. This was B-40201, banded as a nestling by me exactly two years before at a nest a kilometre away. Presumably this cuckoo had departed New Zealand on its winter migration at least once, and was now back in its natal area attempting to breed. In my three years of studying shining cuckoos at Kowhai Bush I banded only 11 nestlings and no adults – so seeing a bird two years after banding was lucky indeed.

## Glossy Cuckoos

The shining cuckoo *(Chrysococcyx lucidus)* has four breeding populations – in the south-west corner of Western Australia, in south-east Australia including Tasmania, in New Zealand, and in the New Caledonia-Vanuatu area. In the first three areas the cuckoos are absent or very rare in winter because they migrate north to the tropics. During the southern winter they are found from the Lesser Sunda Islands in Indonesia, east through New Guinea to the Solomon Islands. In the New Caledonia area the population is non-migratory. There are about 11 another species of cuckoo in the genus *Chrysococcyx* spread through Australia, south-east Asia and sub-Saharan Africa. They are the smallest of all cuckoos – shining cuckoos are sparrow-sized at about 23g. With one exception they all have bright iridescent plumage and so they are known collectively as the glossy cuckoos.

Shining cuckoos are remarkable birds on three counts – their migration, their breeding and their foods.

## Spectacular Migration

Shining cuckoos from New Zealand tend to have slightly wider bills than their conspecifics from Australia. This is very convenient because the specimens that have been collected from New Britain, New Ireland and the Solomon Islands (present there during the New Zealand winter months) also tend to have wider bills than those collected to the west in New Guinea and the Lesser Sunda Islands. Thus the deduction that New Zealand shining cuckoos migrate to the New Britain-Solomons archipelago, and no further west. Note that this is deduction and not "hard fact" as might be obtained from the recovery of banded birds. Very few shining cuckoos have ever been banded, and chances of recovery are slim over huge, sparsely-populated areas like Melanesia and Australasia. Consider that thousands of European cuckoos have been banded in Europe, yet only one or two of these have ever been recovered south of the Sahara in proof of their wintering ground there. What chance do we have in this part of the world? Perhaps in the future tiny transmitters will allow shining cuckoos to be tracked by satellite.

Many authorities have assumed that shining cuckoos migrate directly between New Zealand and the Solomons with the only possible land-falls en route at Norfolk and Lord Howe islands. If correct, this return journey of 6,000km is the most spectacular transoceanic migration by any land bird. I have measured the bill widths of more than 400 shining cuckoo specimens in museums around the world. All birds from Victoria and Tasmania were narrow-billed, but I discovered unexpectedly large numbers of wide-billed cuckoos among the narrow-billed birds from New South Wales and Queensland. The wide-billed birds had been collected only during the months of migration. Thus it seems that at least a portion of the wide-billed New Zealand population migrates via eastern Australia. This extends the return journey to about 12,000km but involves shorter oceanic stretches (just over 2,000km between New Zealand and Australia and just under 2,000km between Australia and the Solomons) and allows ample opportunity for "rest and recreation" on the Australian mainland.

The colour-banded cuckoo that I saw at Kowhai Bush had returned to its natal site (assuming it hadn't been hiding in the bush all along). Banding has shown that European cuckoos tend to return to their natal areas. It makes sense that the homing instinct should in part comprise a return to the area in which the bird was hatched. Feats of migration give us much to marvel at. As Eileen Duggan put it:

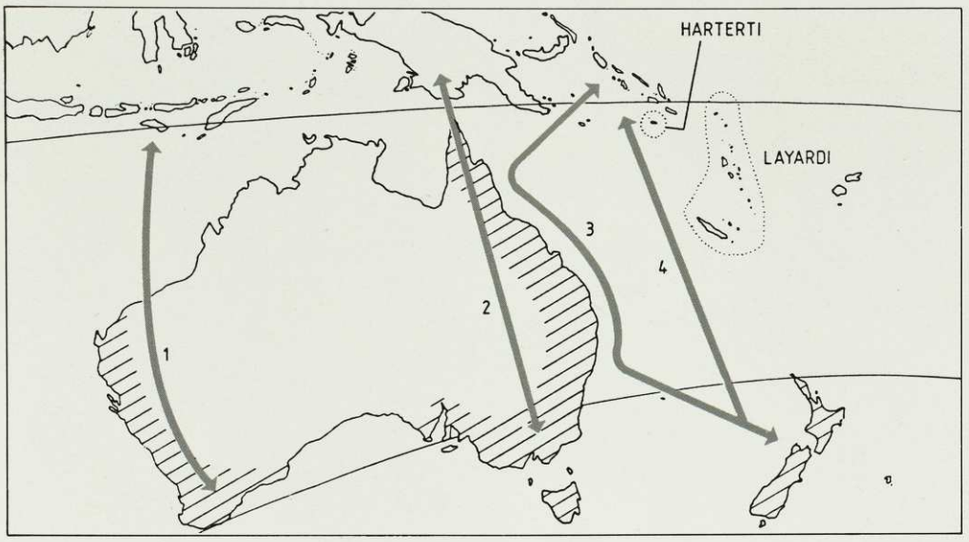
*"Are the seas to you as homely as our fields of curling clover?*
*What old memory sends you blindly over hill and over hollow?*
*Do you never doubt the way?"*

## Parasitic Breeders

All birds in the cuckoo subfamily are brood-parasites – they do not build a nest of their own, but seek out the nests of a host species in which to deposit their eggs. The young cuckoo usually hatches before its foster siblings because cuckoos have evolved very short incubation periods for this purpose. By


*The shining cuckoo's egg (right) is quite different to its host's, the grey warbler (left), yet the warbler appears not to notice.* Photo: Brian Gill

*A 10-day-old cuckoo (left) and a 15-day-old-cuckoo (right). By this stage it is old enough to kick its host's chicks out of the nest.* Photo: Brian Gill. Opposite: *Despite its striking coloration, the shining cuckoo is seldom seen in the forest. Nevertheless it is often heard.* Photo: Rod Morris




*Distribution and possible migration routes (1-4) of the shining cuckoo. The range in Australia and New Zealand is shown by cross hatching. There are two subspecies which do not migrate (*C. I. harterti *and* C.I. layardi*).*

hatching first the cuckoo gets a head start – and cuckoos are usually much bigger than their hosts anyway – so it is soon strong enough to kill its foster siblings by trampling them or evicting them from the nest. The foster parents feed and care for the cuckoo as they would their own. After laying eggs the adult cuckoos have nothing further to do with their progeny. Shining cuckoos parasitise the grey warbler on the New Zealand mainland, and the Chatham Island warbler on the Chatham Islands. The grey warbler is a tiny bird weighing about 6.5g. This is the same as a rifleman, but the latter – usually labelled New Zealand's smallest bird – is shorter because it has a reduced tail.

The act of laying by the female European cuckoo has been well studied and even filmed for television. The cuckoo closely watches the hosts over a wide area to find nests at just the correct stage for parasitism. When the time is right she flies to the host's nest, takes a host egg in her bill, moves over the nest to deposit her own egg, and flies off without so much as a backward glance. It all takes a few seconds. She carries off the host's egg and eats it.

One November day I was walking quietly along a track at Kowhai Bush when I saw a shining cuckoo perched on a branch ahead. I stopped to watch, and was surprised when the cuckoo suddenly stiffened, sleeked its feathers and adopted a strange frozen posture. I was puzzled until I noticed a pair of warblers foraging nearby. The cuckoo very slightly rotated its head as if to keep the warblers in view as they passed along. Later I found the warbler nest 30m away and in due course it was parasitised. It was a circumstantial observation, but it suggests that close observation of the hosts may be important for our cuckoo as well.

Laying by the shining cuckoo has never been seen but it is probably as quickly completed as in the European cuckoo. The only extra complication is that the shining cuckoo's major hosts in Australia, New Caledonia and New Zealand build pear-shaped enclosed nests with a small entrance hole at one side. The enclosed grey warbler nest probably presents no great problem to the female cuckoo in New Zealand. She weighs about 23g but the nests are capable of holding four nestling warblers with a combined weight of up to 30g. I think it most likely that she enters the nest, turns around, lays and departs just as the female warbler does. I examined 6 nests within a few hours of laying by a cuckoo and none was damaged.

Shining cuckoos lay one egg per nest and they remove a host egg just as the European cuckoo does – at least, nests with four warbler eggs (the typical clutch-size) hold three warbler eggs plus one cuckoo egg after parasitism. It makes sense to fool the hosts by keeping their clutch-size constant. Many species of cuckoo lay eggs that precisely mimic the colour and pattern of their host's egg, but the shining cuckoo's egg is totally different from the warbler's. This suggests that the warblers are undiscriminating.

The shining cuckoo's egg hatches in 14-17 days whereas the average incubation period of grey warbler clutches is 19.5 days. Cuckoos usually hatch before any warblers, but they are not strong enough to evict the nest contents until 3-7 days old, by which time some or all of the grey warbler eggs have usually hatched. The young shining cuckoo develops a broad, flat back – nestling song-birds tend to have a ridge along their back – and the cuckoo holds out its little fleshy wings and is able to grip the nest liming at a very early age. These adaptations enable it to ease under an egg or nestling and push backwards until the object falls out the entrance hole. The grey warbler eggs or nestlings fall to the ground, or get caught in intervening foliage, and are ignored by the parent warblers. Birds have very limited intelligence, and at this stage in the nesting cycle the parent warblers are "programmed" by instinct and by their hormones to respond parentally to nestlings in the nest and nothing else.

The young cuckoo grows quickly once it has the nest to itself, and fledges after about 19 days. It follows the foster-parents about and is fed by them for another month. It is comical to see the tiny warblers approaching the insatiable cuckoo with their offerings of food. The cuckoo begs noisily by gaping widely and fluttering its wing's vigorously, and even snaps at the warblers after they have delivered their insect prey. A begging cuckoo is for small birds what animal behaviourists call a "superstimulus". Parent birds at the stage of feeding fledglings can hardly resist. Other species – such as fantails – have been seen feeding fledgling cuckoos. People have assumed that the fantails reared the cuckoo but it is more likely they were simply passing with food for their own young when they were "superstimulated" and fed the cuckoo instead!

Everyone feels sorry for the apparently overworked warblers, but it may be a relief for them to rear a cuckoo! When I studied the visits of warblers to the nest I found that they made fewer visits with food to a cuckoo – and had fewer faecal sacs to remove – than was the case with a brood of three or four of their own young. As for the effect of parasitism on the grey warbler's numbers, it is negligible. Warblers start laying early (September) when the cuckoos are only just arriving in New Zealand, thus only their late clutches (November) are parasitised. In my study at Kowhai Bush 55 percent of late nests were parasitised. I was able to calculate that only 17 percent of late warbler eggs (and of course none of the early eggs) failed on account of parasitism. Warblers lose far more eggs or nestlings to introduced mammalian predators like rodents and mustelids.

## Favoured Foods

Cuckoos in general are well known for their tendency to eat large numbers of insects like ladybirds and hairy caterpillars that are warningly coloured and distateful to most other birds. I have examined the stomach contents of more than 40 shining cuckoos – museum specimens that died from natural causes. About 46 percent of the food items were caterpillars and 27 percent beetles. Most of the beetles were ladybirds – of 5 species, all introduced to New Zealand. When alarmed, ladybirds are supposed to discharge a fluid toxic to vertebrates. About a third of the caterpillars were larvae of the magpie moth which have a dense covering of barbed spines.

The soft, fleshy stomach-lining of cuckoos that had been feeding on these caterpillars was pierced all over by clusters of spines – looking much like the way bristles are inserted in a toothbrush. European cuckoos also eat hairy caterpillars and it has been established that they get rid of the spines by sloughing off patches of mucous membrane from the stomach wall and regurgitating it. Shining cuckoos probably do the same.

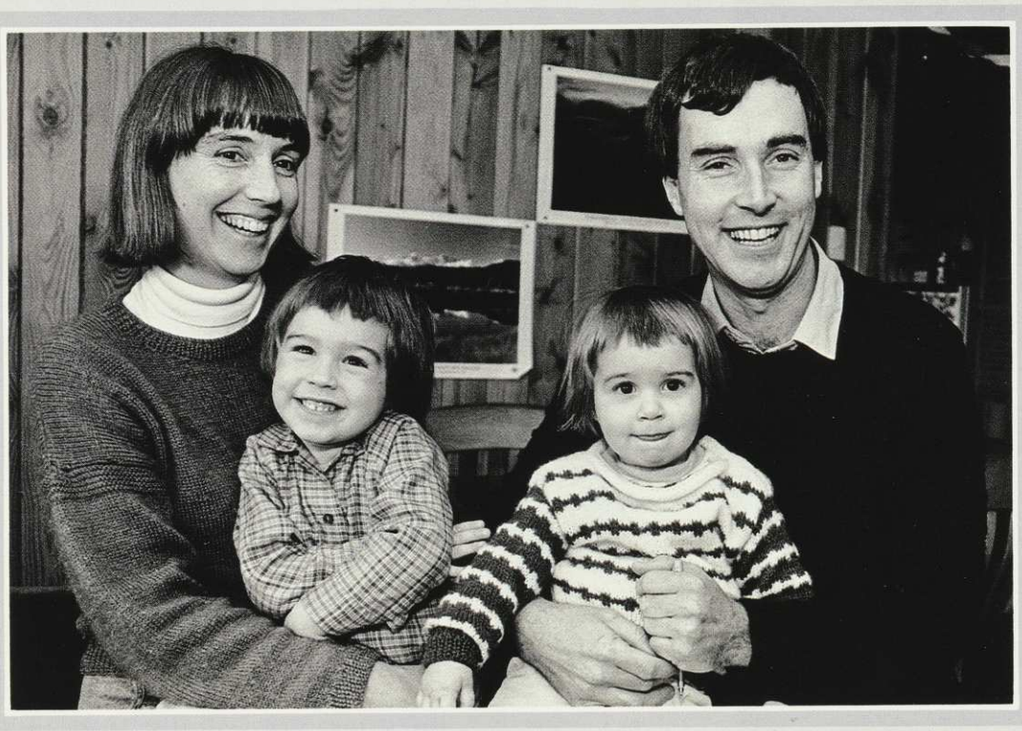
Three times I have found egg-shell fragments in the stomachs of shining cuckoos – all females collected in November, the peak period of laying by cuckoos. Twice these have been speckled eggs, probably grey warbler eggs removed at the time of parasitism. But in a third instance the stomach contained unspotted blue egg-shell fragments and a baby bird – probably a fully developed embryo from the ingested egg. If the nest in question held eggs with full-term embryos then it was the wrong time for parasitism, so perhaps this is proof that shining cuckoos are general nest-robbers as many of the larger cuckoos are. The blue egg may have belonged to a silvereye or hedge sparrow.

Thus we learn a little about the secret lives of these fascinating birds.

*From 1976 to 1979 Brian Gill studied the breeding of grey warblers and shining cuckoos for his Ph.D thesis at Canterbury University. He is now Curator of Birds at the Auckland Institute and Museum.*

FOREST & BIRD INTERVIEW

# Gerry McSweeney: Cherishing Our Natural Heritage



*Anne Saunders and Gerry McSweeney with children Michael and Clare.* Photo: Martin Hunter, Dominion.

***In 1983 Dr Gerry McSweeney became Forest and Bird's Conservation Director. Previously he was Park Scientist at Franz Josef Glacier 1979-82 and from 1975-79 carried out research work in South Island tussock grasslands. He had also spent years in voluntary conservation work as Chairman of the Christchurch branch of the Native Forest Action Council.***

***In the six and a half years he has led Forest and Bird's conservation staff, it has grown from two to nine people spread throughout the country. Society membership has nearly doubled; there has been a fourfold increase in its budget, and a major expansion in its conservation activity and achievements. In July Gerry left Forest and Bird to develop a wilderness tourist lodge at Lake Moeraki in South Westland with his wife Anne Saunders and children Katie (6), Michael (3) and Clare (2).***

*F&B*: What changes have you seen and what do you regard as New Zealand's greatest conservation achievements during your time as Conservation Director.

*G.McS*: The biggest change is that the Government has stopped handing out millions of dollars for environmental destruction in subsidies to the private sector and by direct funding of Government agencies. Our first editions of *Conservation News* in 1983 chronicled this. For example Forest Service were flat out burning bush for pine trees at Mohaka near Wairoa, in Tongariro Forest and in North Westland. Lands and Survey were clearing important forests and native shrubland at Te Puki in the Far North, in the Waitere kiwi block near Napier and in the Tongariro forest. Using forestry encouragement grants Aetna Life Insurance were burning off native forest in the Hunuas, Caxtons were torching Eastern Bay of Plenty forests and Carter Holts doing the same next to the Urewera National Park. Everywhere natural land outside parks and reserves was considered ripe for "development" and millions were wasted pursuing economically and environmentally crazy dreams.

Thanks to Labour since 1984, the subsidies have gone and New Zealand now has a Department of Conservation protecting nearly a third of the country including most of our publicly owned natural land. That is an enormous conservation achievement. We can now concentrate on protecting nature on private land, in raising awareness about conserving the seas and seacoast and in fostering a conservation conscience so that New Zealanders link their individual actions to the global environmental crisis.

*F&B*: Forest and Bird has been campaigning recently on marine, ozone and greenhouse issues, to name a few that are outside its traditional areas of concern. Would you like to see a continuation of that trend and if so, is the Forest and Bird name still applicable?

*G.McS*: Yes, I would. We're New Zealand's largest and most active environmental group. Our objects clearly require us to protect the broad natural environment. We can't afford to narrowly restrict those objects just to birds and native forests. Loss of the ozone layer, global warming, exploitation of our fisheries and fertile soils, toxic substances and pollution threaten not just the natural areas and wildlife we have all helped save. They also threaten the future of all of us on this planet.

Our dramatic increase in membership over recent years shows that New Zealanders want to be part of an organisation that is leading efforts to save our heritage and halt the squandering of resources like soil, fisheries and forests.

If we're effective in our actions, I don't think our name is all that important. The full title is a mouthful – especially with the media. But abbreviated to "Forest and Bird" it is now widely known and respected.

*F&B*: What do you think are the strengths of Forest and Bird?

*G.McS*: I think our greatest strength is our ability to act as a team at all levels from staff and Executive to branches and members. Everyone matters. We couldn't operate without the thousands of volunteers who work for Forest and Bird. I have always been inspired by the dedicated and enthusiastic people in every part of New Zealand who are at the forefront of their local and national conservation issues. There is a real sense of family in Forest and Bird – so much so that everywhere I've always been graciously hosted in people's homes and enjoyed their company in their local district. We can't afford to lose that sense of trust and family as the organisation gets bigger.

Equally I know that it gives our members great confidence when they face the arrogance and power of many development proponents to know that help from our Executive and staff, and through them access to lawyers, scientists and politicians is only a phone call or letter away.

When I came to Forest and Bird there was still some division and disunity over the failed

NFAC merger. Inevitably that reduced conservation output. Since then we haven't had internal dissension so we've been able to concentrate on conservation results.

We are very goal orientated and don't suffer fools or bureaucratic inertia. Publication of the journal, branch or conservation newsletter on time, saving hectares of forests from logging, rescuing birds, cleaning up beaches, getting toxins outlawed, running good field trips and gatherings are all direct ways we measure our success.

Forest and Bird is unique. Its membership of nearly 2 percent of the NZ population is per capita a world record membership of an environmental group. It's also a distinctly New Zealand organisation – not a branch office of a multinational group whose policies are shaped and strategies planned in far off lands.

*F&B*: What are its weaknesses?

*G.McS*: We have a number. There is a danger that we place too many burdens on our committee members. We desperately need more of our many members to offer to help on branch committees, particularly in our big cities. We also need those committees to welcome newcomers and be constantly on the hunt for new talent and enthusiasts. Another weakness is the risk we run of becoming monument builders through buying land and taking on operational responsibilities for small areas at the expense of efforts to tackle much broader environmental issues. The same amount of money to buy 10 ha of bush in the Bay of Plenty could instead be spent employing Ann and Basil Graeme for a year as Conservation Officers. Their work could lead to preserving thousands of hectares through their lobbying and negotiations.

*F&B*: You've got a background in tussock grassland issues and you've always been keen to achieve more conservation in the South Island high country. Has that issue moved as fast as you would like it to, and what have been the impediments in its way?

*G.McS*: Compared to better known ecosystems like native forests, it has been harder to make people aware of the 20 percent of New Zealand covered by tussock and alpine grasslands. Thanks to Alan Mark's efforts and Forest and Bird and FMC's campaigns, people now recognise there are important natural values and landscapes in the high country worth protection. Our High Country Coalition with FMC and the Acclimatisation Society has been central in getting the high country recognised as an issue and preventing the privatisation of these public lands. The stumbling block to getting areas formally protected has been the outdated Land Act. Fortunately this is being revised this year. I like to hope that in ten years time there will be a high country network of large Conservation Parks and smaller ecological reserves, and a close dialogue between high country users and farmers in the management of these areas.

*F&B*: Do you see environmental issues as non-partisan in political terms?

*G.McS*: Yes. The environment is everyone's concern. It worries me that by setting up Green parties or backing one particular party, those parties that don't have your support may adopt a hard anti-environment line promoting all sorts of crazy developments and set us back years as Ronald Reagen did in the U.S. I think it's far better to challenge all the parties to make environmental issues a central feature of their manifesto. Last election it was interesting how both National and Labour sensed the importance of the environment and both sent out their environmental policies to all our members. I think environmental concerns will feature even more prominently in the 1990 election.

*F&B*: How do you view the Labour Government's record on environmental decisions over the last 5 years?

*G.McS*: I have already applauded their excellent record in removing subsidies and creating the Conservation Department. It has also been encouraging how they have tackled native forest conservation in the West Coast Accord, stopping logging in North Island state forests and saved the forests of South West New Zealand. Above all they have had an open, consultative style on conservation issues. I have found it a pleasure to work with Philip Woollaston, Helen Clark, Fran Wilde, Geoffrey Palmer and the Caucus Environment Committee who all have a strong commitment to the environment.

There are some clouds on the horizon between now and the next election. I continue to worry that new resource management laws will give regional government too much power and environmentalists will end up battling 14 different regional governments to establish environmental standards previously set at a national level. I think the Labour Government has been led up the garden path on Antarctica by our Foreign Affairs officials out of touch with public support for full protection for the frozen continent. We also need to watch Mike Moore's campaign to use inflated claims of jobs and revenue to destroy sensible and reasonable environmental controls which protect the coast and our reserve systems.

*F&B*: Do you see environmental issues dominating the political agenda during the 1990s?

*G.McS*: Yes. Whether we like it or not the 1990s are the last chance decade. If we can't turn around world thinking and action on issues such as greenhouse pollution, CFCs and tropical rainforests in the next ten years, we either won't have a future at all or if we do, it will be a miserable one.

*F&B*: Conservation groups are often portrayed as Pakeha-dominated urban-orientated organisations. Are Forest and Bird's links with the Maori community, farmers and foresters growing?

*G.McS*: We are Pakeha-dominated but we're not urban-orientated – probably the reverse. Many of our strongest branches are in provincial towns and these areas have usually also been at the forefront of our campaigns. There have been growing links with farming action groups on issues such as mining, protecting native forests and even on the high country issue. I've valued Sir Peter Elworthy and Hamish Ensor's help in finding a common ground between conservationists and high country farmers. We have also recently found lots of common ground with commercial foresters determined to plant future plantations away from native forest areas. I regret that Forest and Bird doesn't have a strong Maori membership but that is not an unusual feature amongst voluntary conservation groups. Nevertheless, I have valued Ngai Tahu Sandra Lee's vital contribution on the Forest and Bird Executive. She has opened our eyes to the Maori dimension in conservation. Our awareness has been helped by working alongside Maori groups on issues such as Wellington sewage, the Kauri National Park, marine reserve proposals and native forest protection.

*F&B*: What have been the most personally satisfying issues you've been involved in during your time at Forest and Bird?

*G.McS*: There are three issues that stand out; the Crown land carve up from 1985 to '88, the South West New Zealand campaign from 1985-89 and most recently negotiating the forest conservation accord with Tasman Forestry Ltd.

The Crown land carve up started like a detective mystery. Our team pieced together the evidence for the misallocation of 600,000 ha helped by superb work by branches and members. Having published the evidence and established our credibility we were then invited by Government to work in the team negotiating directly with State corporations and DoC to sensibly reallocate the lands.

The South West NZ World Heritage concept originated from my 1985 Anzac fellowship where I saw how Australia was seizing upon World Heritage as both a conservation tool and to help tourism promotion. Since then our team spearheaded by Kevin Smith and Gerard Hutching promoted the idea through books, pamphlets, posters and calendars and the grand concept has been crucial in getting protection for the entire 2.6 million ha which will be nominated for World Heritage status later this year.

The Tasman Accord has been very important because it is a breakthrough in getting protection for some 40,000 ha of prime native forest in total. Because of the enthusiasm and interest of people like Bryce Heard and David Buckleigh of the Fletcher Challenge subsidiary Tasman Forestry and David Field of DoC, our Forest and Bird team was able to reach amicable agreement. The alternative of polarized bitter debate, legal actions and possibly mediation by Government haunted all of us involved in the negotiations and we were determined to show it was possible for industry and the environment movement to work together. I hope it will be a model to other companies and organisations in New Zealand and elsewhere.

*F&B*: What has been your involvement in tourism and do you see it as a natural ally of conservation?

*G.McS*: Through conservation work I've guided thousands of people into the forests and mountains. I spent 8 years in Arthur's Pass and Westland National Park co-ordinating summer nature programmes and visitor activities.

I also worked in Westland National Park at the height of the campaign to get Okarito for-

est added to the Park. By showing it was possible to save the forests and use them sensitively for tourism it was possible to gain the support of many of the local people in South Westland against logging.

Since then, at Forest and Bird we have built on that concept to protect the Paparoas, the Karamea forests and the Tongariro Forest Park. Kevin Smith's excellent South Westland nature tours, Mark Bellingham's Chatham Island tours and my trips for Venturetreks in New Zealand, Australia and Malaysia are all examples of sensitive nature tourism instead of environmental abuse.

I think tourism is a vital ally of conservation. It is infinitely better than clearance of forests for logging pine trees or farming. Nature-based tourism is also a good way to create jobs and revenue for New Zealand built around our clean green image. It must be well planned and tourist attractions need to be well managed. Therefore we must be prepared to adequately fund DoC so its staff can do this. Equally DoC needs to be responsive to the needs of the tourist industry.

*F&B*: What are your reasons for wanting to run a wilderness lodge at Lake Moeraki in South Westland?

*G.McS*: Firstly, my family and I want to spend more time together. My Forest and Bird job has inevitably involved a tremendous amount of travel and a lot of irregular hours so we want a change.

Secondly, my wife Anne and I have a dream that has grown out of our time in Franz Josef Glacier. It involves offering visitors to New Zealand and New Zealanders a really high quality outdoor experience from a comfortable base.

Thirdly, I think its important to have a staff turnover in all organisations. Kevin Smith has tremendous experience in the conservation field and will work with Joan Leckie and all our team to bring new energy to our Head Office.

Finally, we are keen to live in the wilderness again and give our kids a chance to grow up, not in a concrete jungle but amongst the rainforests and wildlife we have all fought so hard to protect.

*F&B*: What is your Lodge offering?

*G.McS*: It is an existing motor lodge, 30 km north of Haast on the Haast Pass Highway. It has new motel units, cottages, a caravan park and a restaurant. As well as accommodation and meals we have developed a programme of guided nature walks, talks, birdwatching, canoeing, hunting and fishing. Its location between a lake and the sea, surrounded by high rainforest and mountains, makes it an ideal place to spend a few days discovering original New Zealand at its finest.

Later next year we plan to establish a Rainforest Education Centre which can host and train young students who want to research the forests and animals. We have already received some sponsorship to build the centre and are looking for more.

*F&B*: Will you miss the political scene in Wellington and the interaction with other conservationists?

*G.McS*: I will miss it. It has been terrifically stimulating to work with all the sensitive caring people in Forest and Bird, the Department of Conservation and others working in environmental fields. In particular, I'll miss the close team of Alan Mark, Joan Leckie, Mark Bellingham, Andrea Lomdahl and Gerard Hutching and everyone else on the staff and Executive. I suppose I will also miss the drama of the media and political battles we have fought on conservation issues. Obviously we will maintain a close interest and involvement in environmental issues.

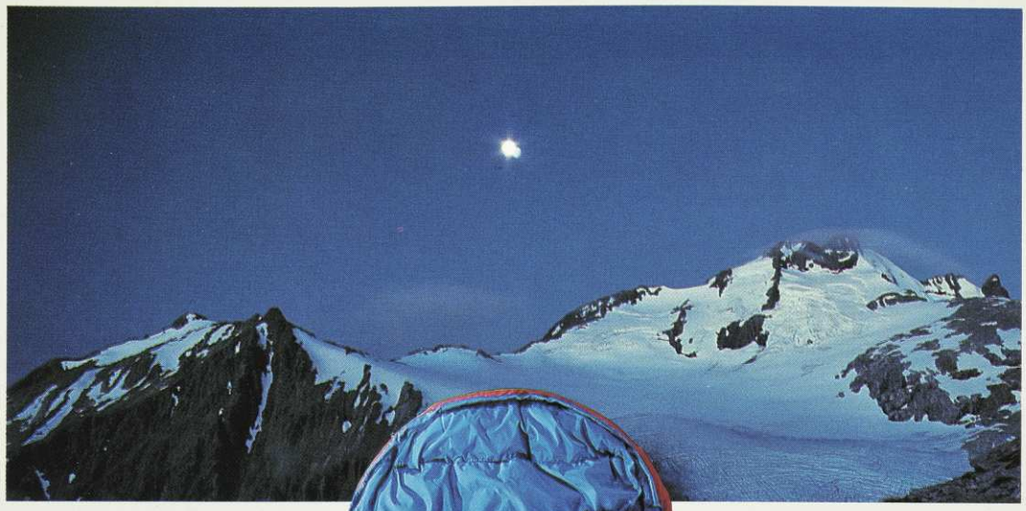
*F&B*: Canadian zoologist and science broadcaster David Suzuki says that in 40 years time there won't be any wilderness left in the world. Are our work and beliefs just a token gesture?

*G.McS*: No. Most environmentalists are optimists and I think anyone who feels otherwise should read our Annual Report and think again. In just 10 years New Zealanders have gone from wreaking havoc on our swamps, forests, tussocklands and coast to an era of caring and appreciation.

A whole new environmental ethic has taken hold in New Zealand. I think we're now missionaries who have to sell to the world that message of living conservatively and cherishing our natural heritage. Our politicians have been effectively communicating that on the world stage and people throughout the world see New Zealand as a symbol of hope.

It's our job to maintain that reputation. I know Forest and Bird will continue to play a key role in doing that.

# What's all the fuss about?



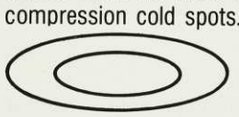
**Elasticised Shoulder Muff** — an extra seal to ensure body heat is retained.

**Three Dimensional Draught Flap** — runs along entire zip length. Non-snag nylon tape prevents fasteners catching.

**Computer Aided Design** — for pinpoint dimensional accuracy.

**39 Separate Internal Compartments** — controls down movement to prevent cold spots.

**Differential Cut** — inside fabric is cut smaller than the outer to prevent compression cold spots.



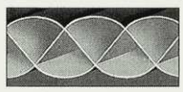
**90/10 Down** — 90% down, 10% small feather. Lightweight, compactable and graded to international standards to ensure consistent quality.

**Stand-Up Box Foot** — for extra room.

**Left or Right Zip Option** — for doubling.

**Vertical Baffles** — prevents down in the top half of bag moving to either side.

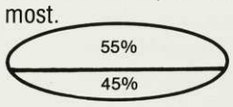
**Internal V-Wall Construction** — the world's most advanced construction prevents heat loss at the seams and maximises loft in each compartment.



**Soft-Touch Silk-Finished Nylon** — high thread count fabric downproof by construction.

**Computerised Filling** — each compartment is filled to the accuracy of 1 gram against a filling programme designed for maximum thermal efficiency. Weight and distribution of fill is identical in every bag.

**Differential Fill** — retains 55% of the down on the top where it is needed most.




**Entrant Outer Option** — waterproof, breathable fabric for extra protection.

**EVEREST SLEEPING BAG** — endorsed by Jon Muir and Carol McDermott, Australasia's leading alpinists.

## We've been accused of being fussy about our production methods.

We'd like to apologise and change our ways. Unfortunately, we just can't seem to find any shortcuts.

We would like you to have a look at the features and tell us what to eliminate because, frankly, we think we're just too close to it. After all, 60 years of manufacturing a wide range of bags for an equally wide variety of uses has led to an awful lot of problem solving, some in places where next to nothing lives.

If there's nothing you can see to get rid of, don't worry. Truth is, we just can't bear the thought of you being anything less than comfortable and cosy.

So, until further notice, we'll continue to be fussy manufacturers. Knowing us, we'll probably be even fussier next year.

Fairydown Outdoors

# A Window Upon Mountains by Peter Hooper

*Looking east from Mt Faraday towards the author's home covered by a sea of mist.* Photo: Andy Dennis

In stillness, in quiet breathing, the dominance of the ego diminished, one can participate in the rhythms of natural being. A dewdrop flashing in the sunlight becomes a passion of jewelled energies, its extinction the death of a star. Yet as the wave of morning flows ever westward around the world, the tide of darkness daily strands fresh brilliants about our feet.

Every morning is an invitation to new pastures of the imagination.

I am fortunate that I live in a noble landscape, my windows opening upon valley farms to the blue-steeped wilderness of the eastern Paparoa ranges. Like the ocean a mountain range is never static; it flows to different rhythms, that's all.

Angles of sunlight, the passage of wind-driven cloud shadows, the veiling of peaks by coming rain, are all phases which daily reveal the moods of a mountain range. The northward retreating sun of autumn shapes ridge and valley differently from their summer contours. In the sharp clarity of dissolving mists on a winter's morning the mountains advance almost to the end of the garden. And tomorrow a nor' wester may see the same ridges turn their backs upon me as they shrug grumpily into an overcoat of cloud.

Fortunate indeed are those who can release the imagination to participate in the holistic nature of wilderness. A communion is established and the mind liberated to its wanderings in lonelier and more remote valleys than the eye had reported. To keep the mind open to this sense of wonder is to come home to a wholeness of self that matches the wholeness of unspoiled nature.

For me, this faculty of delighting in the natural world operates most powerfully during autumn, in late March and April. The conditions required are quite specific, and could be measured in terms of atmospheric pressure, temperature, humidity, the angle of the noonday sun, wind direction and speed. There is a quality of ambience in the light that gives mystery to the landscape even under the cloudless sky. Earth pauses in its breathing, caught in memory of past summer before the onset of winter.

Wax-eyes fossick among the garden shrubs, sparrows rifle the seeding toe-toe, dusk sometimes floats the kotuku lordly above the marshes. A mountain wind on such days brings to the quiet roads and towns of the seashore the electric vitality of forested solitudes, the breath of the wilderness just beyond our backyards, the challenge of Emerson's 'alienated majesty' within ourselves.

The only equipment needed for a journey through current space and time into a natural state beyond the personal ego is a healthy pair of feet, preferably well shod. Hazlitt has some shrewd remarks *On Going A Journey,* by which he means walking:

"I can enjoy society in a room; but out of doors, nature is company enough for me. I am then never less alone than when alone . . . I cannot see the wit of walking and talking at the same time. When I am in the country, I want to vegetate like the country."

Even in England's tamed countryside, Hazlitt reached out to enter into the spirit of nature.

In *Water and Dreams,* the French philosopher, Gaston Bachelard, sees the world delighting in experiencing itself. "The cosmos, them, is in some way clearly touched by narcissism. The world wants to see itself. The lake is a large tranquil eye."

Philosophically, one can accept that ecological holism makes possible a sharing of nature's self-enjoyment. In the growth of imaginative sympathy there is an outward spiralling that promotes participation in a natural wholeness. If Bachelard is correct and "The world wants to see itself", then, since we are part of cosmic reality, to delight in our experience of nature, is to enter into our heritage.

It was his capacity to delight in every detail of the natural world that won me to a lifelong affinity for the writings of Henry David Thoreau. He saw meaning and purpose for human life in all natural phenomena. If ever a man found

*". . . tongues in trees, books in the running brooks, Sermons in stones, and good in everything,"*

it was Thoreau.

It was in 1938 that I discovered his *Walden* or *Life in the Woods,* in a new paperback edition of the Penguin classics, and from that first reading entered into an ante-room to a wholly acceptable paradise. Through Thoreau I not only developed an awareness of my own ignorance of the natural world I inhabited, but laid the foundations of a much later conservation ethic. Through Thoreau I reached out to ancient Hindu and Buddhist teachings, and at another extreme, acquired a deeper respect for manual labour and the skills of craftsmen.

Fifty years on I still read Walden (as I still listen to Sibelius), recently re-read Thoreau's first unsuccessful book, *A Week on the Concord* and *Merrimack Rivers,* but most of all continue to turn to the voluminous *Journals* which were his life's work.

In a hut he built himself by Walden Pond just out of Concord, Massachusetts, Thoreau spent over two seminal years studying nature, reading and writing in a woodland solitude. In the nineteenth century his work was regarded almost entirely simply as nature writing, but today, as social and political critic, as an ecologist before his time, mystic, literary stylist and original philosopher, Thoreau is the subject of scholarly study in all civilised lands, and a loved companion to thousands of people.

Last year, in gratitude for a youthful discovery that fifty years have so amply confirmed, I visited Concord and walked out to Walden Pond. Prepared to find a shrine desecrated I was pleasantly surprised to discover powerful on-going battles to protect the Pond in its woodland reserve, and to fight encroaching urban pressures from Boston. And although the old Indian trail around the Pond suffers from the passage of thousands of tourists each summer, I found the deep clear green of the waters that Thoreau praised seemingly as pure as ever. Spring-fed, with no inflowing or outflowing streams, the little lake, a mile long, perhaps three-quarters wide, still keeps the purity of Thoreau's youthful spirit.

I walked to the Pond at six o'clock one morning and was able to sit quietly by the hut site in the green oak wood before anyone else arrived. The original hut was moved soon after Thoreau vacated it. Today a plaque on the site reads,

*"I went to the woods because I wished to live deliberately, to front only the essential facts of life, and see if I could not learn what it had to teach, and not, when I came to die, discover that I had not lived."*

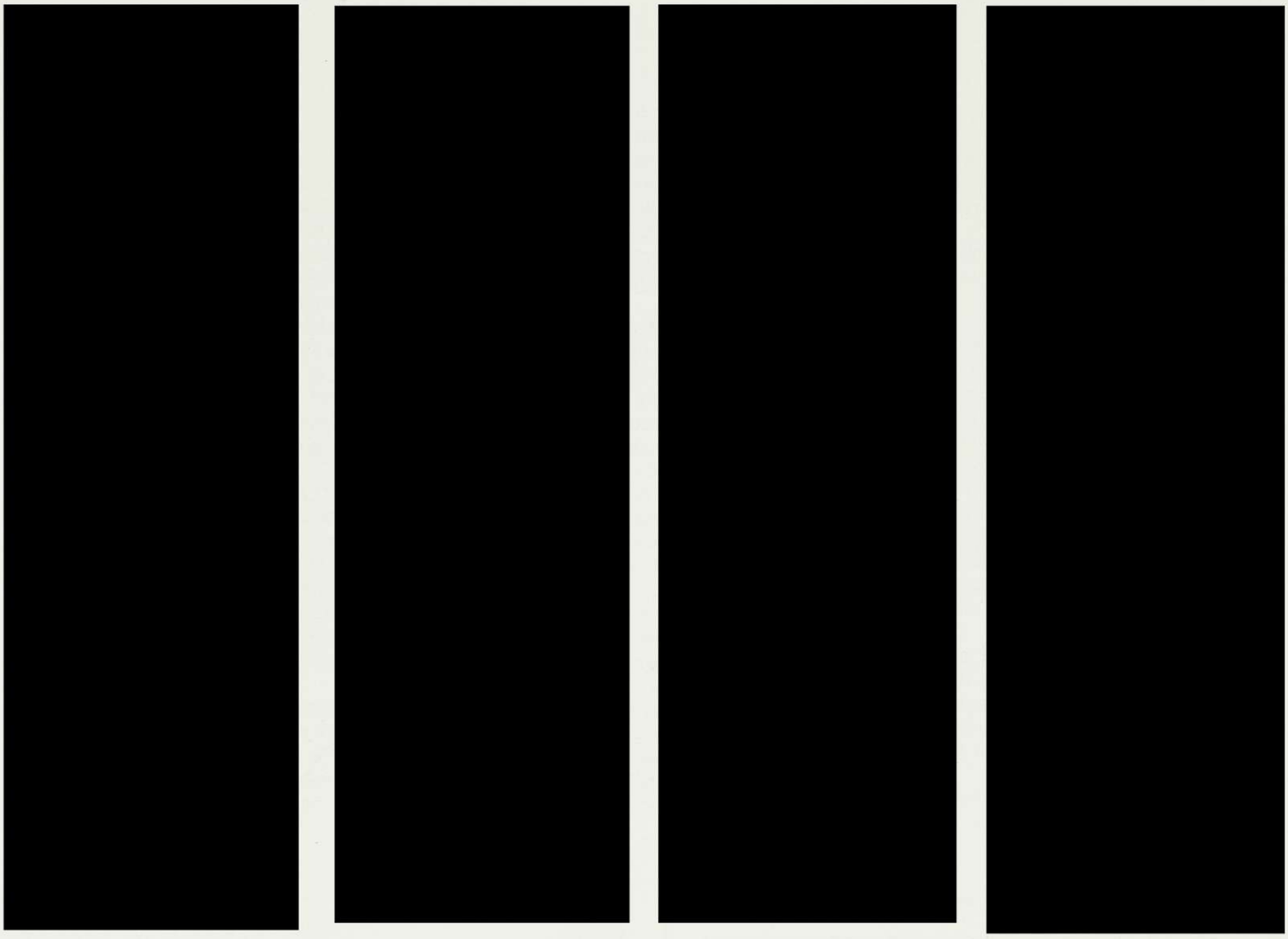
Thoreau's Walden woods are no Westland wilderness, but out of his teaching and those of like minds, has grown a whole changed awareness of how humanity does, and should, relate to nature, not only easily to a tamed backyard nature, but to those vast and challenging wilds that may appal and yet still be a source of spiritual strength.

"In Wildness," wrote Thoreau with prophetic insight, "is the preservation of the World."

The old Chinese hermit-poets of the Tang Dynasty would have understood perfectly what he meant. As Chia Tao has it, in *Searching for the Hermit in Vain,*

*"I asked the boy beneath the pines. He said,*
*"The master's gone alone*
*Herb-picking somewhere on the mount,*
*Cloud-hidden, whereabouts unknown."*

*Peter Hooper is a Forest and Bird member and fulltime writer. He last wrote an essay for* Forest & Bird *in February 1986 about the establishment of the Conservation Department.*



## SOCIETY'S LODGES AND HOUSES

### Ruapehu Lodge, Whakapapa Village, Tongariro National Park

Set in a privileged position within the National Park this lodge is available for MEMBERS ONLY, and is an ideal location for tramping, skiing, botanising and exploring.

The comfortable lodge holds 32 people in four bunk rooms, and provides all facilities. You need bring only food and bedding. Private parties are restricted to 10 members.

Bookings and enquiries should be made from P O Box 631, Wellington (04) 728-154. The lodge is very popular, and bookings may be made six months in advance, if secured with a 20% deposit. The rates are reasonable, and fluctuate seasonally.

Full payment is required four weeks prior to occupation, after which time there is no refund for cancellation.

### Turner Cottage, Stewart Island

Turner Cottage, is on Stewart Island and is a two-roomed dwelling furnished for three people. For details write, enclosing a stamped, addressed envelope, to: "Turner Cottage", C/- Mr W. Fisher, P.O. Box 44, Stewart Island.

### William Hartree Memorial Lodge, Hawke's Bay

The lodge is situated 48km from Napier on the Puketitiri Road and 8 km past Patoka, amid the 14ha William Hartree Memorial Scenic Reserve.

The Lodge accommodates 10 people. Extra mattresses and pillows are available to sleep up to 20. The lodge has a fully equipped kitchen, including refrigerator.

Visitors supply their own linen and cutlery. The nearest store is 8km away. No animals are permitted.

For rates send a stamped addressed envelope to the Booking Officer, Mrs Colleen MacKay, 3 Plunket Street, Tamatea, Napier, Telephone (070) 444-219.

### Tautuku Lodge

Tautuku State Highway 92, South East Otago. Situated on the Royal Forest and Bird Protection Society's 550 ha Lenz Reserve 32 km south of Owaka. In a bush setting, and many lovely beaches nearby providing a wonderful base for exploring the Catlins. 3 well appointed buildings, the Lodge, the Coutts cabin and an A-frame sleep 10, 5 and 2 respectively.

Information and rates on application to the caretaker: Miss M. Roy, Papatowai, Owaka, R.D.2. Phone (0299) 58-024. Stamped addressed envelope with inquiries please.

### Tai Haruru Lodge, Piha, West Auckand

A seaside home situated in Garden Road, Piha, 38km from central Auckland. Eight minutes' walk from the Piha store, with right-of-way access to the surfbeach and close to bush reserves and walking tracks in the Waitakere Ranges.

The lodge is fully equipped and sleeps six to eight persons. It has a large lounge with open fire, dining area, and modern kitchen.

You will need food supplies, bed linen, towels, and tea-towels.

Different rates apply for winter and summer, for rates send a stamped, addressed envelope to the Booking Officer, Mrs B. Marshall, 160 Valley Road, Henderson, Auckland. Telephone 836-5859.

### Waiheke Island Cottage, Onetangi, Waiheke Island

The cottage has comfortable bunk accommodation for eight people and has a stove, refrigerator, and hot water. Adjacent to a 49ha wildlife reserve, belonging to the Society it is in easy walking distance from shops and beach. It is reached by ferry from Auckland City (two or three returns daily) and by bus or taxi from the island ferry wharf. Everything is supplied except linen and food. No animals are permitted.

Different rates apply for winter and summer. For rates send an addressed envelope to the Booking Officer, Mr D. McLean, 55a Queens Drive, Oneroa, Waiheke Island. Telephone Waiheke 6494.

### Bushy Park Lodge

Kai Iwi, 24km northwest of Wanganui on sealed road off S.H.3.

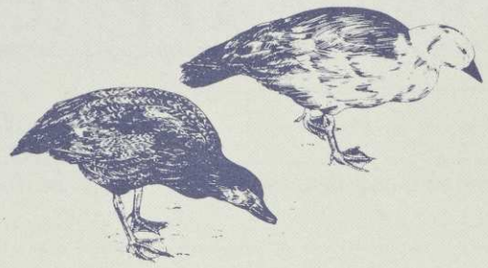
Historic homestead, fine grounds and view. 89 ha of virgin bush with tracks and trees identified.

Accommodation: for 16 in six bedrooms, single and double beds, electric blankets, heaters and vanity units. Six extra folding beds. Bedding, linen and towels supplied. Showers, drying cupboard, kitchen with electric stoves, microwave, refrigerator, deep freeze, cutlery and crockery. Bring own rations. Milk may be ordered.

Reduced adult rates Sunday to Thursday nights except long weekends and school holidays (GST included). Open 7 days a week.

A bunkhouse for 12 is available for group bookings. It has kitchen facilities, mattresses and pillows. Toilets and showers are in the adjacent stables building.

Bookings and Information leaflets: Manager, Bushy Park Lodge, Kai Iwi, RD8 Wanganui. Telephone Kai Iwi 879. STD (064) 29-879.



# JOIN THE ROYAL FOREST & BIRD PROTECTION SOCIETY AND RECEIVE *FOREST & BIRD* MAGAZINE

We need your support and the support of your friends to fight for New Zealand's natural heritage. Our key campaigns for the future are:

● Private forest clearance ● A network of marine reserves ● High country tussocklands ● South Pacific rainforests ● Ozone layer ● Antarctica ● Threatened species

## JOIN A FRIEND AND RECEIVE A FREE 1990 CALENDAR

We need your friends and relatives to join Forest & Bird. Show them through *Forest & Bird* magazine the wonder of our natural heritage and why it should be protected. If you join a friend you will receive a free 1990 Calendar. Just fill in the attached form.

*FOREST & BIRD – working together for our natural heritage*



# MEMBERSHIP APPLICATION

☐ Yes, I want to join! Please enter a membership in the category checked below.

Name: _____

Address: _____

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GIFT MEMBERSHIP: If you are giving this membership as a gift, please enter *your* name and address *below*:

Donor name: _____

Address: _____

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GIFT MEMBERSHIPS will be sent with a special gift card in your name.
☐ Please tick if you would like to be billed for renewal of this gift membership next year.

## MEMBERSHIP CATEGORIES

| | 1989/90 | | 1989/90 |
|---|---|---|---|
| ☐ Kiwi Conservation Club (separate newsletter) | $10.00 | ☐ Senior Single (over 60) | $27.00 |
| ☐ Students, Schools and Libraries | $23.00 | ☐ Senior family | $27.00 |
| ☐ Single | $38.00 | ☐ Groups | $38.00 |
| ☐ Family | $38.00 | ☐ Corporate | $275.00 |
| | | ☐ Life | $475.00 |

**MAIL TO (enclose your cheque):**

**The National Secretary, Royal Forest & Bird Protection Society of NZ Inc,**
**PO Box 631, Wellington.**


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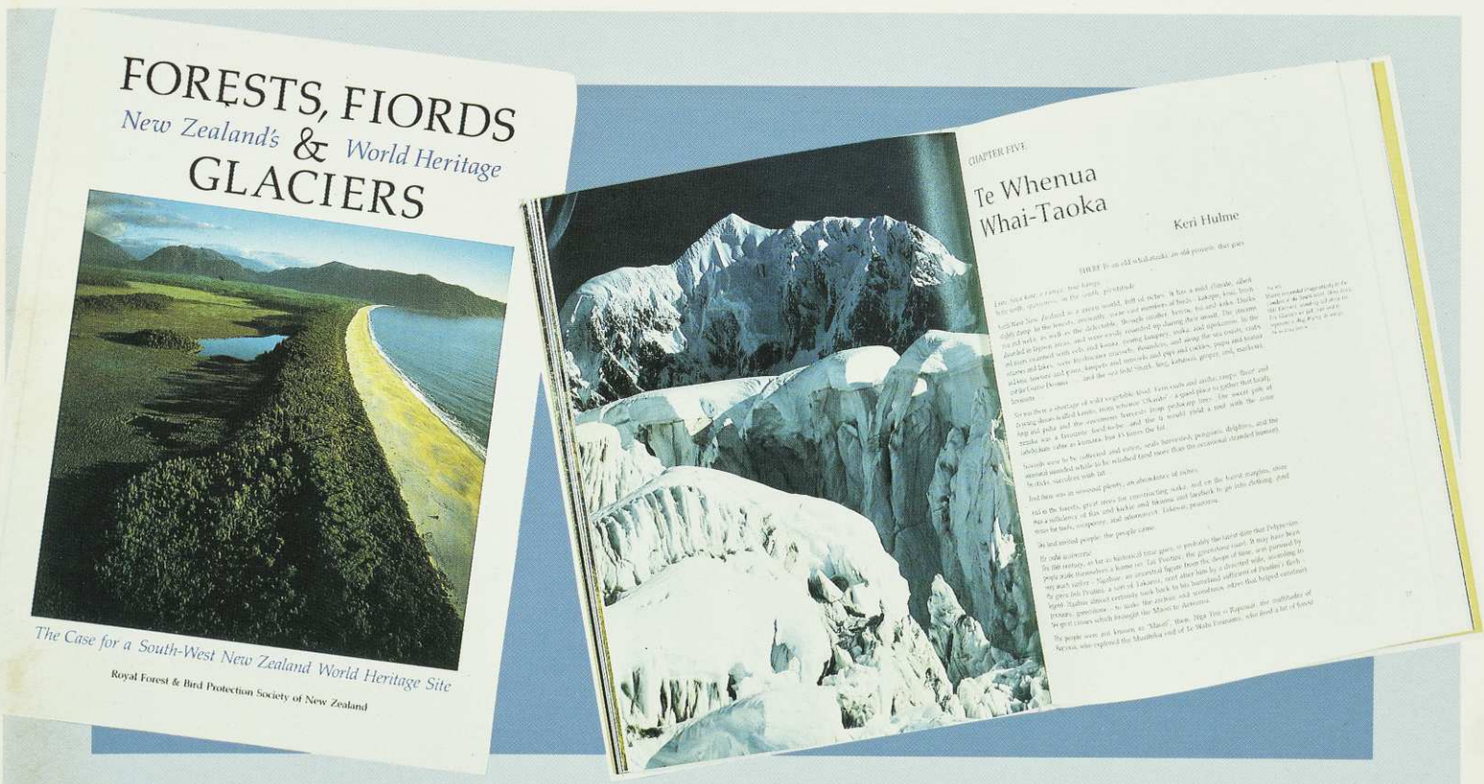



*Forest and Bird still has 500 of the much acclaimed South West World Heritage book. Essays by Keri Hulme, Guy Salmon, Gerry McSweeney, Kevin Smith and Craig Potton describe why the area should be included under the banner of "World Heritage". Photographs by Craig Potton, Brian Brake, Ray Joyce and others show the region in all its majestic diversity. Buy direct from Forest and Bird's mail order service and save $8.00. Our price to members is $29.00 (inc GST and postage and packaging). Retail price is $36.95.*

# FOREST AND BIRD'S 1990 CALENDAR


## New Zealand's Coastal Heritage

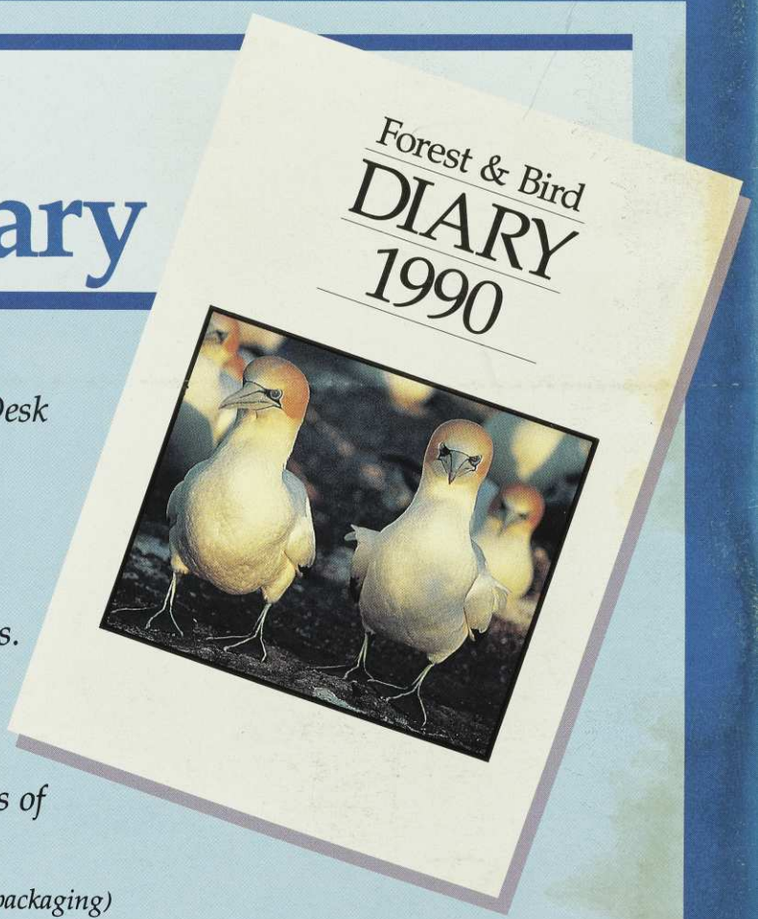
Celebrate the New Zealand coast with Forest and Bird's 1990 Coastal Heritage Calendar – spectacular dolphins, graceful seabirds, amazingly coloured underwater plants, beautiful fish and scenic landscapes.

Photographers to be featured include three times award winner for Wildlife Photographer of the Year Kim Westerskov, scientist/diver Ken Grange and others.

1990 is the year we want to make people aware of the threats to our precious coastline and to highlight the areas which should be created marine reserves. Help spread the message by buying a calendar for yourself and your friends and relations.

*The 1990 calendar, produced in collaboration with the Conservation Department, will be available August 1989. Price: $11 (including GST and postage and packaging). Send your cheque to Forest & Bird Mail Order, PO Box 631, Wellington.*

## Forest & Bird 1990 Desk Diary




*Order your copy now of the Society's 1990 Desk Diary with the following features:*

- *52 outstanding photos – one for each week – of NZ's plants, animals, scenes.*
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- *Large format – 16cm across by 23cm down.*
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*Order your diary now for $17.00 (inc GST and postage and packaging) from Forest & Bird Mail Order, PO Box 631, Wellington.*

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