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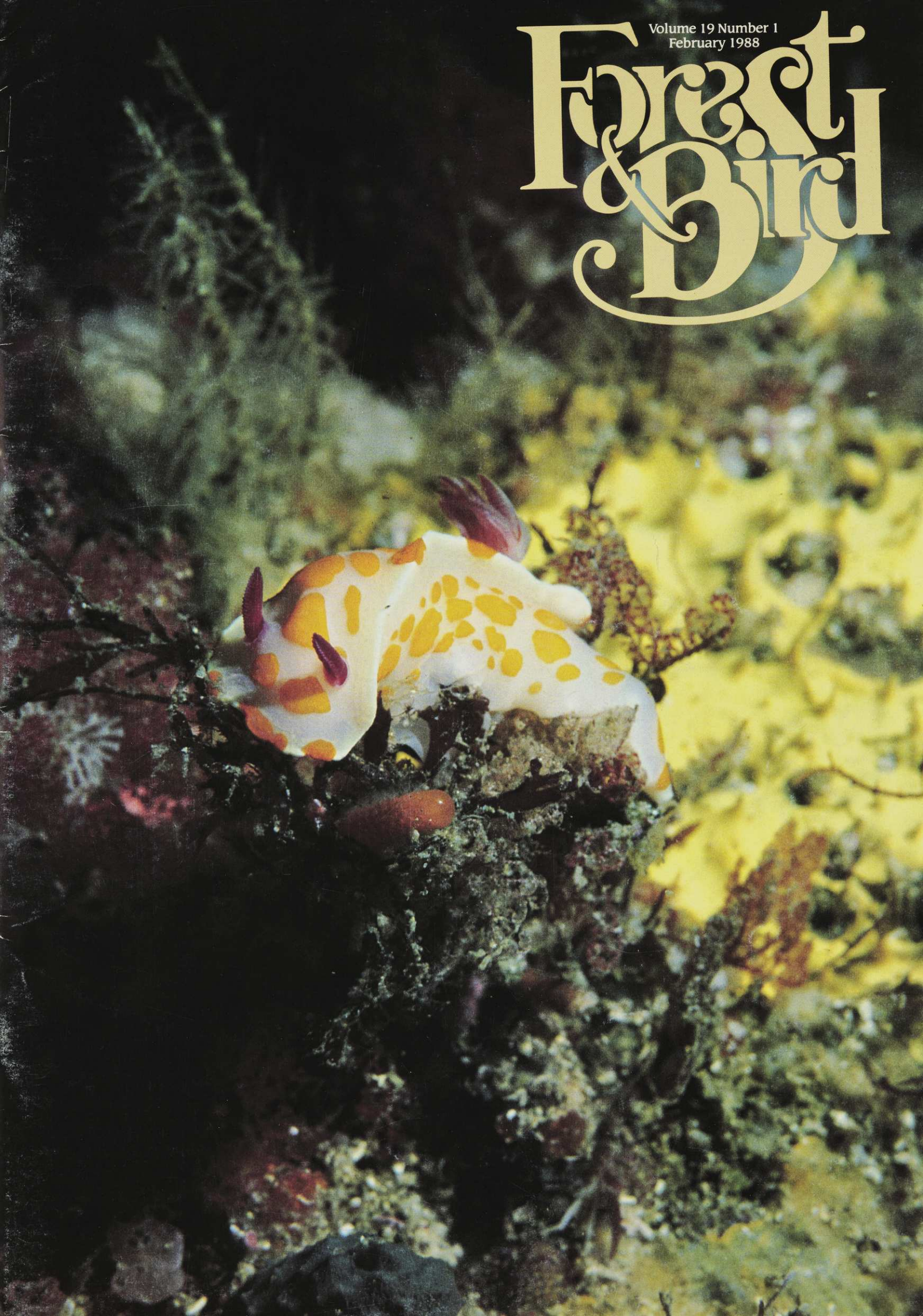
Forest & Bird



One of the finest scenic roads in New Zealand runs through the tussock-covered hills of the Lindis Pass in Central Otago; here also occur relic and regenerating stands of Hall's totara, reminders of the forested history of the eastern South Island before natural and man-induced firing altered the landscape. Extremely valuable from a scientific and scenic point of view, these dry country forests are gradually disappearing from the high country. One of the reasons is that people still set fire to them, accidentally or otherwise. The Waitaki Catchment Commission recently took the uncommon step of prosecuting three pastoral lessees on charges of burning outside a permitted area. One of these – Timothy Innes of Dunstan Downs, on whose lease the pictured Hall's totara are found – pleaded that he took all reasonable care and precautions to prevent fire from his permit area spreading into the native forest nearby. The charge against him was dismissed, but one of the other lessees was convicted and fined $250 for burning an area without a permit. This is the second time in 12 years that the mountain totara on Dunstan Downs Station have been burned.

The Conservation Department is now the rural fire authority over much of New Zealand. They are working closely with Catchment Authorities to ensure fire permits issued for the South Island high country in future avoid damaging natural areas like the Lindis Pass Hall's totara.

A pamphlet on bush fires just produced by DoC shows that each year an average of 780 accidental wild fires burn out an area equivalent to the size of Abel Tasman National Park. Significantly land clearers (farmers, foresters) burn more than 5 times (87 percent) more vegetation accidentally than picnickers, hunters and vehicle drivers combined!

A common but beautiful sea slug which protects itself through its colouration, warning would-be predators that is poisonous to eat. Many other species and marine habitats require a different form of protection: the establishment of a network of marine protected areas around the coast, an argument presented on page 2 of this issue. Photo: Ken Grange

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C·O·N·T·E·N·T·S

Articles

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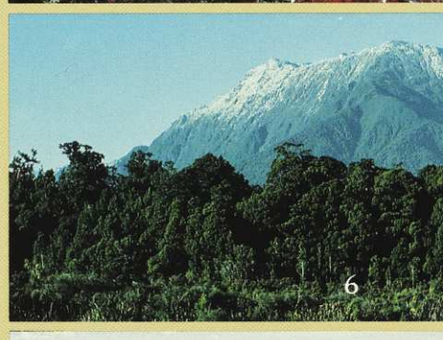

A Marine Revolution

People are inclined to view the sea as uniform, despite the coral reefs, seagrass beds, fields of sea ice and outer boundaries of mangroves and estuaries that reveal its diversity. The terrestrial world, on the other hand, is divided into many realms, provinces, regions and districts.

To an extent humans can be forgiven for creating that distinction in understanding between land and sea. We do not, after all, live in the sea. Furthermore pelagic marine ecosystems carried by warm or cool currents have very mobile boundaries, a feature which has encouraged us to regard the sea as a unified whole.

But, like many other parts of our environment which, until recently have been ignored because they are little understood, the sea is today seen as vitally important to the continuation of life on land. It is our planet's dominant climatic force, not merely because of its great bulk, but also because of its intricate physical, chemical and biological organisation.

Most New Zealanders live near the coast. Even if they live inland, their region's geology and biology has been shaped by the sea. Despite this close relationship with the marine world, we are not instinctive marine conversationists, most of us still adopting a hunter-gatherer approach to the ocean's resources. A "Marine Revolution" is needed.

A good place to start is to adopt and support the proposal put forward by marine scientist Dr Bill Ballantine in this issue — set aside immediately 10 percent of New Zealand's coastline as representative protected marine areas. The idea of a representative reserve has worked at Leigh, near Auckland, where fishermen — both commercial and recreational — notice large populations of crayfish and other harvested species *inside* the reserve, and very few *outside*. Experience is a powerful teacher.

If exceptions to the "no exploitation" rule are allowed, the system is bound to fail. Just as the sustained yield concept was proven not to work in our native podocarp forests, so too will it not work in our marine reserves. We have learnt to protect stocks, breeding and nursery areas for a wide range of species on land. Why do we not do the same for marine life?

Of course, there are many unique and outstanding coastal areas which are not "representative". These must be protected, but can be dealt with separately as with our special purpose terrestrial reserves. The important point is that there are no impediments — financial or policy — standing in the way of the representative concept. People's attitudes are the main barrier, a hurdle of unknown proportions but one which can be overcome given sufficient goodwill and firm advocacy. This is another important responsibility of the Conservation Department. Its advocacy is provided for in the Conservation Act and there is a special coastal directorate.

But a mental adjustment will have to take place, not easy when life under the sea has long been "out of sight" and to human attitudes therefore "out of mind". A "Marine Revolution" is a fitting label for that adjustment, implying on the one hand a return to our beginnings, and on the other an overthrowing of the outmoded ideas of the past. I call on Society members to promote and lead that revolution.

Dr Alan Mark President

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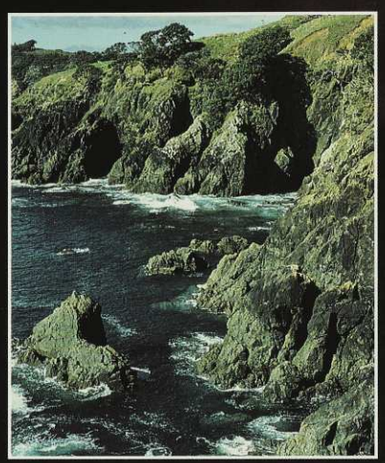
Marine protected areas
The only enemy is indifference

by Dr Bill Ballantine

Although New Zealand does not have many marine protected areas yet, it has had one for a decade and this one is highly unusual in both nature and rules.



The "Leigh" reserve was the first created (1977) and it is highly successful in terms of popularity, value to local fishermen, and as a means of understanding more about the marine environment and our effects upon it. In fact the proper title of this reserve is the "Cape Rodney to Okakari Point Marine Reserve" and it covers 5 km of coast, to 800 m seawards, near the village of Leigh on the coast north-east of Auckland.

The success of Leigh is rather surprising and does not support current conventional wisdom on how to select and run marine protected areas.

It is generally supposed that marine protected areas should:

- be special or unique in their natural features
- be as pristine and natural as possible
- be remote from large centres of population
- have few previous human uses or activity

It is also generally supposed that rules and regulations should permit and approve traditional and culturally-important fishing; other fishing except when proven harmful; and cooperation with all existing users if possible.

Above: *The Leigh Marine Reserve just north of Auckland was not created because it was special but because it was representative of the area's coastline. The author argues that 10 percent of New Zealand's coastline should be reserved immediately as representative reserves.* Photo: Bill Ballantine

Inset Opposite: *Leigh Marine Reserve, looking south. The reserve extends to the cliff top.* Photo: Bill Ballantine

Opposite: *Red moki, a coastal slow-growing fish whose populations have been drastically reduced by spearfishing, finds a safe haven within the Leigh Marine Reserve.* Photo: Ken Grange

Did Not Conform

The Leigh reserve did not conform to any of these features.

- it was a typical and representative piece of coast
- spearfishing had ravaged the central area
- it was an easy drive from New Zealand's largest city
- it was popular for picnics, fishing, camping etc.

In addition, the regulations imposed by the reserve forbade all killing, removal or disturbance of life; gave no specific reasons for the restrictions; and provided no compromises with existing users although these, of course, continued their activities on all other coastline.

It is generally supposed that such tough restrictions, especially if imposed without specific and demonstrated reasons, will prove both unpopular and/or unworkable.

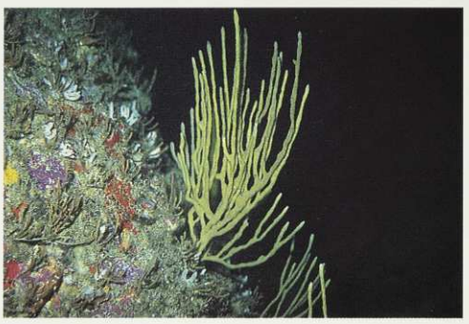
The experience at Leigh, however, shows that the benefits and popularity of the marine reserve are directly linked to the strict regulations and the resulting idea of complete naturalness. This is true both in the strictly scientific sense and in the view of the general public.

A more usual kind of marine reserve was created around the Poor Knights Islands off Whangarei in 1980. Spectacular in its scenery and underwater life, the Poor Knights Reserve was virtually pristine apart from deep sea fishing; it was 20 km off-shore and difficult to reach; and the islands were uninhabited.

Regulations were worked out that allowed big game and some other fishing to continue; distinguished different zones, methods and species; and initially won cooperation from existing users.

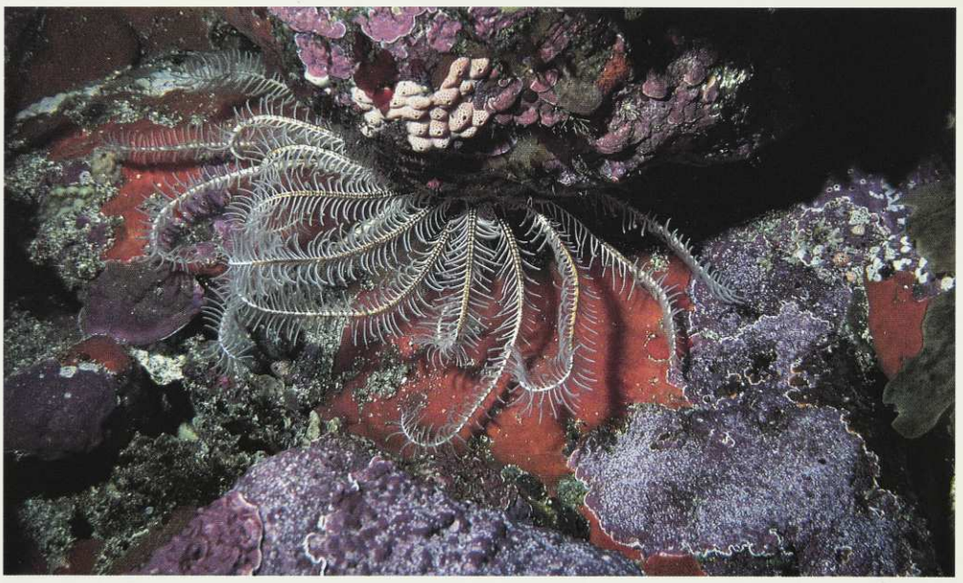
These rules have been successful in maintaining the Poor Knights as a very special and unusual set of marine habitats with a high degree of naturalness; at the same time protecting the status quo, including most existing recreational fishing.

New Zealand has therefore practical experience with two very different types of marine protected areas. Both have been successful in their own way. One is the type found in many countries and is suitable for protecting special marine areas. The other is less common but has been remarkably successful in creating a major asset out of an ordinary piece of coast.



Left: *The deep sponge-dominated habitat at 30 m on the steep rock walls of the Poor Knights Islands. Designated a marine reserve in 1980, these habitats have been protected for their uniqueness and diversity of marine life.* Photo: Ken Grange

Below: *A feather star or crinoid under a rock ledge. Just one of the unusual species that occurs abundantly within the Poor Knights Island marine reserve.* Photo: Ken Grange



A Vision of the Future

I believe that the success of the trial marine reserves means:
(i) we should arrange for more; (ii) as some benefits are local we should have marine protected areas in all parts of the country; (iii) because the benefits only relate to the habitats protected, we should make sure some of each habitat is included in each part of New Zealand.

But what area of the coastline should be protected? In my opinion, at least 10 percent of all marine habitats and regions should be aimed for, a figure which would provide a reasonable level of insurance against specific greed and general ignorance.

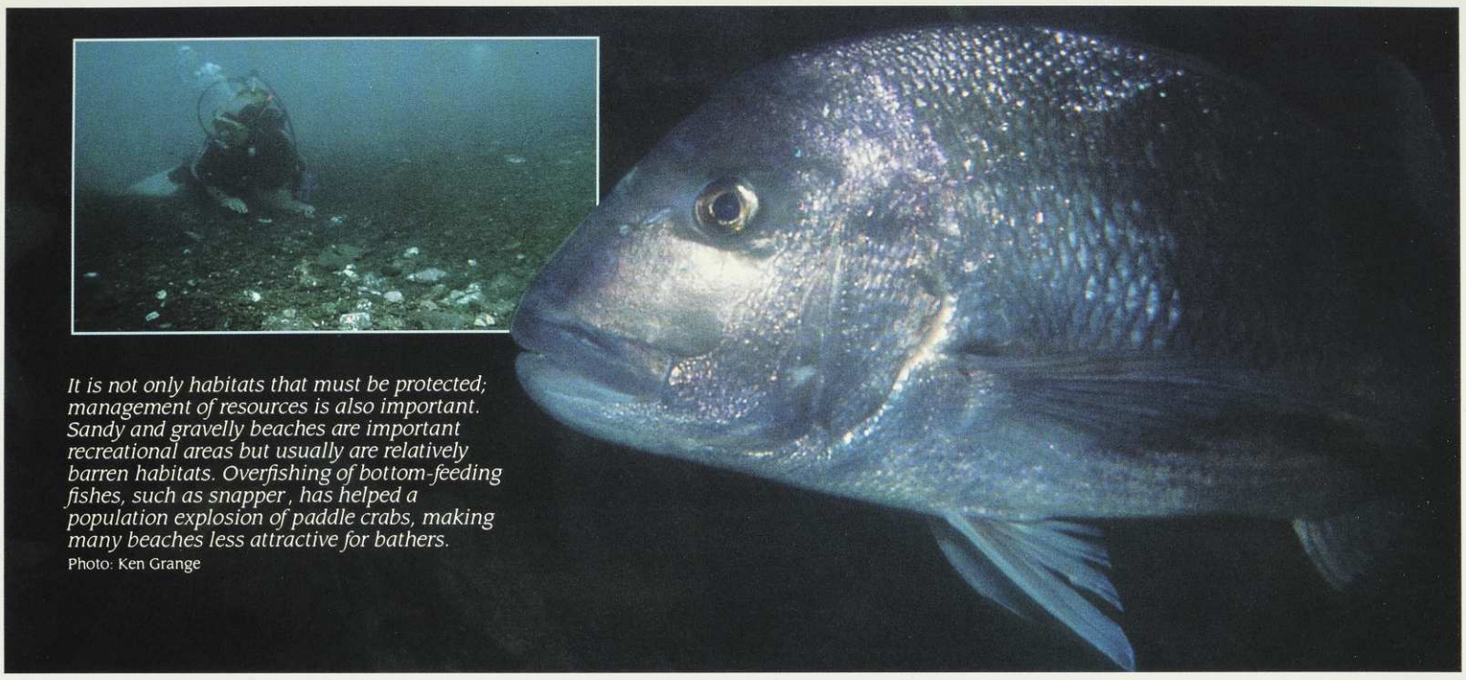
We should commence at once and proceed rapidly to create more marine reserves. No purchase or compensation is involved, only a change in public policy for a public asset. No useful purpose is served by delay. On the contrary, by pressing ahead quickly any difficulties will be reduced and the benefits maximised.

Of course, special areas will need to be protected because of their unique, rare or spectacular features. Protection of "the best" will obtain widespread support fairly easily. It will be clear which places are "the best", and what rules are needed to protect them. However, precisely because they are "special" these areas will be unable to provide general benefits.

Therefore, the major effort should be put into obtaining the major benefits, and experience has shown that these lie in fully-protected areas which are typical, representative and accessible.

The only stumbling blocks are pyschological and social, although they are serious and normally inhibiting — unless active counter measures are adopted. While the case for the protection of specific places for specific reasons is reasonably easy to argue, the reservation of "ordinary" areas for general reasons is really quite difficult in any particular case. Why was this piece selected? Hard data can be produced to show somewhere is the "most special" in some respect, but it is not possible to prove anywhere is the "most typical" of its kind.

Furthermore, if the general benefits of naturalness are sought, it is not possible to give specific reasons for the banning of particular activities. People who have been fishing or otherwise exploiting an area for years and are told to stop, feel entitled to an explanation. If no actual evidence of harm can be provided, then they will be certain to question any bans.



It is not only habitats that must be protected; management of resources is also important. Sandy and gravelly beaches are important recreational areas but usually are relatively barren habitats. Overfishing of bottom-feeding fishes, such as snapper, has helped a population explosion of paddle crabs, making many beaches less attractive for bathers.
Photo: Ken Grange

Prevention Better Than Cure

But specific sense is not necessarily general sense. It is clearly absurd to wait until clear damage is apparent before we move to save any part. "Prevention is better than cure" may not be universally true, but it is obviously worth retaining one straight ruler, one undamaged piece, one natural bit. But so far we have no system for doing this in the sea.

A practical system for selecting and protecting a network of typical marine habitats would have to include socially and politically effective arguments for each. These could be generated at three levels:

- The principles noted above — at least one representative example of everything in each area, accessible to the general public and with the total reaching 10 percent by area, all of full protection.
- A range of local and/or pragmatic points, decided as far as possible by local people, such as ease of boundary recognition, policing and control, degree of current exploitation, adjacent land use and effects and size, viability and distance from other reserves. This would be done so as to maximise the benefits. For example, one site might be handy to schools, preferred by local fishermen as a nursery ground and well away from shipping lanes, while being no better as an example of sheltered harbour habitats than several others.
- A range of cultural, aesthetic and emotional points which again would be decided locally if possible.

These "subjective" reasons are in fact vitally important. In some cases objective supporting evidence is possible and desirable, but the points are still in the area of opinion.

The "subjective" reasons for creating a marine protected area could include: the tourist and recreational value of non-exploited areas; protection of historic wrecks, scenic features and areas of traditional significance; use for pollution monitoring, management tests, and control of general exploitation levels; moral and aesthetic

Unique or special areas are easy to argue for protection. The Kermadec Islands, for instance, contain a curious mixture of tropical and temperate species, including the only reef-building corals in New Zealand. Photo: Ken Grange

preservation values (from genetic diversity to showing children what it was all like once.)

Finally, it should be recalled that exploitation will still be the norm in the sea. At present it is total in New Zealand (minus some tiny fragments). If the above programme went ahead, the present range and level of exploitation would still continue over 90 percent of all sea areas in all regions. The "compromise" is in favour of exploitation and overwhelmingly so. There is no need or value in any further compromise or reduction.

Areas "reserved" for recreational fishing may be required in some places but this is a matter for fisheries management and is separate from and in addition to marine protected areas. There is no point in confusing these issues.

If full protection from exploitation and the full benefits of naturalness are the watchwords for marine protected areas, then the idea can be sold to all intelligent and responsible fishermen as a being a direct benefit to them, even more so than for other citizens. If any kind of killing or disturbance is permitted then most of the real benefits disappear along with the principles, so that while there may be less opposition, there is virtually no support either.

Ordinary pieces of coast contain species and habitats that are worthy of protection. Octopus and sea slugs are common in Wellington Harbour, but habitats close to large cities are under constant threat from environmental degradation and there is no reason to be complacent about their long-term survival.
Photo: Ken Grange

Marine protected areas with "nil extraction" offer real benefits to all citizens. The creation of a network of such areas covering 10 percent of the coastal and offshore waters requires only the political and social will to do so. This programme does not require large amounts of public or private money, merely the support of large numbers of people. This issue is of real social importance but does not have any predetermined position by party, class, sex, race or religion. There is no enemy except our own indifference.

Dr Bill Ballantine is director of the Leigh Marine Laboratory.

Conflict among potential users of marine resources may force the establishment of new marine protected areas. In Paterson Inlet, Stewart Is, salmon farming is seriously affecting the natural habitats which support populations of edible scallops and scientifically important brachiopods, which do not occur in such abundance elsewhere in the world.
Photo: Ken Grange

Tropical Rainforest Report

Described as "the most pristine tropical island of its size in the world", Rennell Island in the Solomon Islands is currently under threat of logging by a member of the Wang group of companies.

About 2000 people live on the 69,000 ha island, and apart from small areas of garden, it is covered with untouched forest. Other facts about Rennel:

- it contains the largest lake in the Pacific (15,000 ha);
- of the 50 bird species, 21 are endemic;
- it is likely that more than 40 percent of the plant species do not occur elsewhere;
- the forest is not a big one and a logging operation would not produce much revenue for the Government or people.

As with many other tropical rainforest logging proposals, this one is being promoted in order to provide the Solomons with foreign exchange. As Minister of Health the Hon John Tepaika says, he favours logging because "we desperately need foreign exchange. Thus the selling of our much loved land and forest, which we do with broken hearts for the future."

One ray of hope for nations in such a dilemma is the "debt of nature" concept. In Bolivia a group called Conservation International purchased $650,000 of Bolivian foreign debt, and in return the Bolivian Government committed itself to protecting 3.7 million acres of tropical rainforest in the Amazonian basin.

In contrast to this positive move, the World Bank, United Nations agencies and major international aid agencies have come up with the Tropical Forest Action Plan, to which they have pledged $1 billion for the next eight years. Unfortunately, only 8 percent of this money will go towards protecting natural areas; most will be used for industrial uses of forests, agroforestry programmes and strengthening forestry institutions. The plan continues to propagate the myth of sustained yield logging in tropical rainforests.

Education and Extension

Our tremendously successful environmental education appeal has enabled the Society to employ an education and extension officer. Andrea Lomdahl started work at Head Office in November last year. Andrea is an Australian who has worked for World Wildlife Fund (Australia) for the last two years in publications and publicity; before that she completed a degree in botany and zoology.

Many of you, especially active branch members, will be certain to meet Andrea shortly — but please be patient, 50 branches is a lot to cover. One of her roles will be in assisting branches with their many publicity needs.

Fletchers Upset Canadian Conservationists

Fletcher Challenge Ltd, which has been posting large profits recently largely thanks to its successful Canadian companies British Columbia Forest Products Ltd and Crown Forests Ltd, is now running into major conflict with Canadian conservationists over the logging of the Stein Valley, claimed by the conservationists to be the last major unlogged valley in southwestern British Columbia.

The mid-Stein Valley, where Fletcher's subsidiary plans to log.

The timber industry has painted the issue as one of jobs versus preservation, while conservationists say it is time the timber industry started sustained yield logging and diversified into alternative ways of living — such as tourism. The Indian land claimants of the valley are also said to be opposed to logging.

Under the logging plan for the Stein, the lower and upper parts of the 1100 square km valley will be set aside as wilderness areas, but the middle section will be logged for 9 percent of its timber over 30 years. Therefore a logging road will have to traverse a "wilderness area" with its steep rock walls and narrow valley bottom.

A Wilderness Advisory Committee set up by the BC Government noted that the mid-Stein contained an important grizzly bear population. However, it opted for logging in order to keep mills in the region going, but only if agreement could be reached with the Indian owners to build an access road. No such agreement has been forthcoming.

No conservationist organisations were represented on the Wilderness Advisory Committee. Most members were from the logging industry.

Taiko Comes Out of Hiding

The mysterious taiko, once considered to be the world's rarest seabird, has baffled researchers who have been looking since 1969 for its breeding grounds. However, late last year the intrepid David Crockett and other ornithologists located a breeding burrow on the main Chatham Island, the first time since mutton birding ended in the early 1900s that a burrow has been recorded.

Wild cats and pigs found around the breeding area pose problems for the taiko, which has an estimated population of 100.

Books Received

Tuatara, *by Don Newman (McIndoe, $5.95).* This latest booklet in the New Zealand endangered wildlife series centres on the ecology and conservation of this ancient order of reptiles. Excellent colour photos and clear diagrams throughout enhance the text.

Kakapo Country: *the story of the world's most unusual bird, by David Cemmick and Dick Veitch (Hodder & Stoughton, $39.95 hardback, $32.95 softback).* Another successful collaboration between wildlife artist Cemmick and writer Veitch, following up their Black Robin Country. This book mainly covers the last 30 years of effort to discover, study and conserve the kakapo. Consequently the book centres on Fiordland, Stewart Island and Little Barrier Island. Illustrations are a good smorgasbord of other plants and animals from these three localities. Cemmick's full page kakapo paintings are a feature. Let's hope the past efforts of the Wildlife Service and the future work of the Conservation Department will save this most unusual bird.

Images From A Limestone Landscape, *by Andy Dennis and Craig Potton (Potton, $65.)* Dennis and Potton spin dramatic tales of the Paparoa's unique karst landscape in words and images. The authors capture the essence of our newest national park in this large format art book. One can only wonder at the timidity of the decision makers who procrastinated for more than a decade over the park's creation, by which time its original size had been whittled down from encompassing most of the Paparoa range to an area less than a quarter that size. At 28,000 hectares, Paparoa becomes our 12th and smallest National Park. In time the adjacent wilderness conservation lands of the Otututu and Ohikanui, natural treasures such as the Waggon Creek limestone caves which are filled with moa skeletons and the well known Croesus and Moonlight tracks should all be added to the Park.

World Birds, *by Brian Martin (Pacific Publishers, $49.95).* A fun read for anyone interested in a "Guinness" look at birds – the rarest bird in the world (ivory-billed woodpecker); the most acute sense of smell (kiwi); the fastest and slowest egg-laying (cuckoos and geese). Slight bias towards British entries (the author is English).

The Dragonflies of New Zealand, *by Richard Rowe (Auckland University Press, $39.95).*
Richard Rowe's fascination with dragonflies is conveyed in this excellent review of our Odonata. Well illustrated with colour photos, distribution maps, keys and diagrams, the text includes a chapter on the biography of our dragonflies and sections on each of the species found in New Zealand. This book should certainly stimulate more dragonfly and damselfly watching.

Bitterns on their Doorstep

West Coast conservation officer, Kevin Smith, looks at Haast and its people.

Haast has one of the most splendid natural settings in New Zealand. Some people, however, would have you believe that Haast is a rain-lashed hamlet sitting in the middle of a mosquito-infested swamp, and that the local residents have little time for nature and even less time for nature lovers; a petrol stop between the glaciers and Queenstown, but most definitely not a place to linger.

Yet, if you are tempted to join the increasing number of tourists who stop at Haast, you will discover an area endowed with ecological riches and natural scenic beauty. Haast offers unparalleled opportunities for wilderness recreation from challenging back country tramps to leisurely canoeing on a myriad of hidden, slow-flowing waterways.

The local people will surprise you too. They willingly share with you their love of Haast's many natural wonders and endeavour to make your stay the experience of a lifetime.

Environmental spotlight

Haast is in the national environmental spotlight at the moment. Later this year, the Government will make decisions on the future of the publicly-owned forests and wetlands of South Westland between the Cook River and Big Bay. Conservationists are seeking full legal protection for these public lands which contain the country's last kahikatea forests, most extensive freshwater wetlands and exceptional populations of forest and wetland birds.

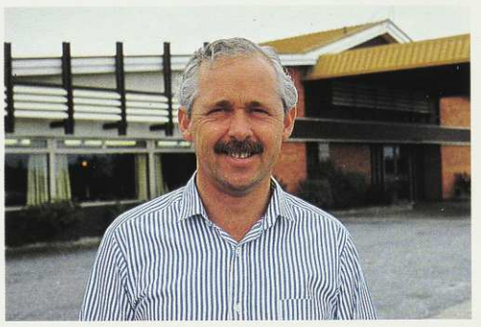
The Haast district lies in the heart of this region. With 278 people it is the major population centre.

Haast people are determined that they do not become "conservation casualties" as exaggerated claims by anti-conservationists raise fears that they may be forced to leave the district. Local fisherman Jenny Barratt represents their interests on the South Westland Working Party. This was set up by the Government to make recommendations on future land use options for the State forests of southern South Westland. Other members of the Working Party include representatives of the timber industry, West Coast local bodies, and several government departments. Since June, I have been on the committee representing public conservation interests.

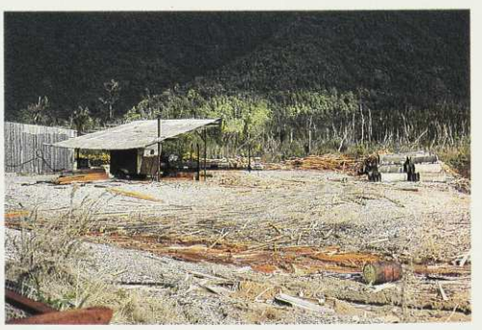
Jenny says she is not opposed to reserves if they can be shown as vital and do not affect the local people. Conservationists must be sensitive to that challenge if they are to achieve their goals. Significant progress was made in reconciling the needs of local people and conservationists last year when Forest and Bird Director, Gerry McSweeney and I negotiated directly with the residents' action committees, and visited many of the region's households to listen to local people's concerns. An interim agreement was reached covering major issues such as grazing leases, whitebaiting, game recovery and tourism developments.

Partnership needed

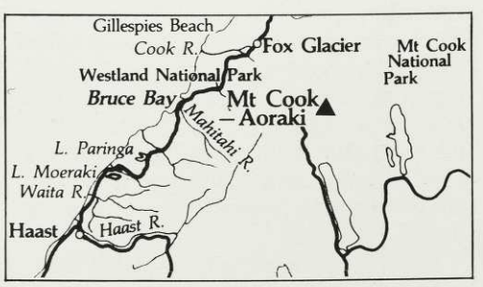
Suspicions about conservation still exist but local people have also been quick to realise that conservation management can bring them social and economic benefits from increased tourism. They are seeking a partnership with the Government in tourism promotion and development to help them build up their nature-based tourist industry.

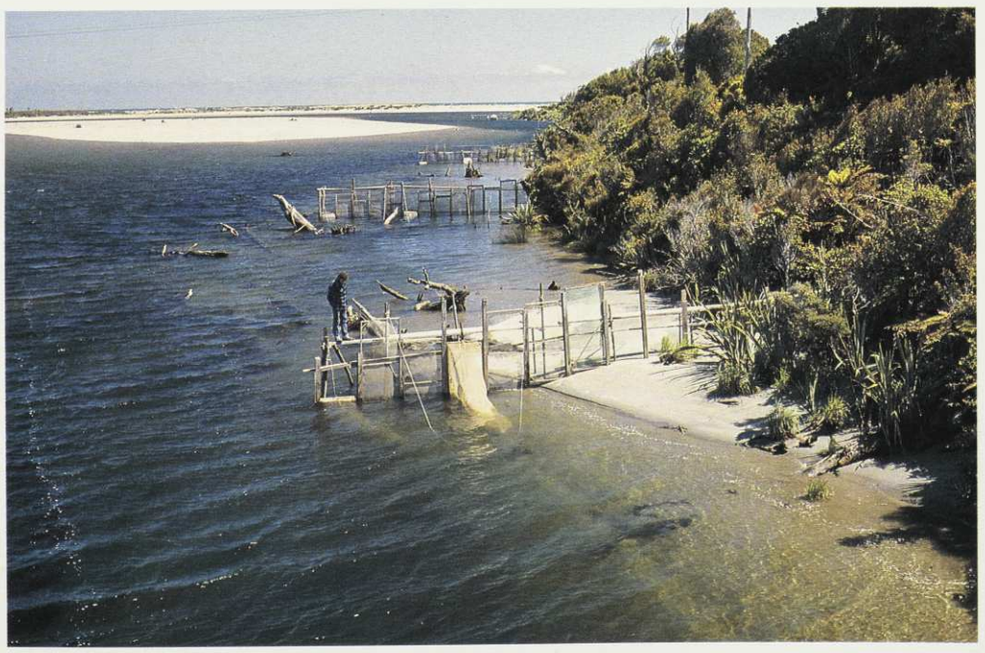


John Dennes has confidence in the future of Haast tourism. He is one of the new owners of the Haast tourist hotel.



Sawmill at Haast. After a chequered career, this sawmill closed last year as it was unable to compete with mills closer to the market.





Inset Opposite: *Forest and Bird South Westland natural history tours have proved immensely popular since they were begun last year. Munro's Beach, Moeraki.*
Left: *Protection of the Haast wetlands and forested streams is essential for the future wellbeing of the area's major whitebait fishery. Whitebaiting on the Okuru River.*

Haast residents are justifiably proud of the beauty of their natural surroundings. The Waita lagoon, home to abundant native wildlife.
All photos Kevin Smith

They admit their small, scattered population cannot undertake these projects on its own. Local tourist operators believe one of the best ways this can be achieved is through a partnership with Forest and Bird and the Department of Conservation. However, they are keen to ensure their environment does not suffer through over-commercialisation. In a report to the South Westland Working Party they noted that: "The Haast area appeals to those who are compatible with and sympathetic to untamed areas and we want it promoted as such."

Life has never been easy in untamed Haast. The isolation, climate, poor soils, heavy forest cover and extensive wetlands have made this a difficult area for human settlement. However, recent archaeological work has revealed an unexpected series of major pre-European Maori settlements in the region. It seems that Jackson Bay (Okahu) was once the centre of a major trading network in greenstone whose source lay in the inland ultramafic belt of the Red Hills. These settlements had all but vanished when Europeans arrived in the 1800s.

After South Westland's gold mining boom collapsed in the late 1860s, special government-funded settlements were founded at the unlikely sites of Jackson Bay and Smoothwater Bay to reverse the population decline. These soon proved to be foolishly ambitious and had disappeared within a decade. Since then there has been gradual economic development based on farming in the river valleys, commercial fishing of whitebait and sea fish, game recovery (red deer and chamois) and tourism. The 1960s saw a dramatic upsurge in tourism with the completion of the Haast highway. More than 300,000 tourists now travel this highway each year and are catered for in the Haast district by a major tourist hotel, a motor camp and motels at Haast, Okuru and Lakes Paringa and Moeraki.

Chequered sawmilling history

Sawmilling has had a very chequered history in the region. In the 1960s a large mill was established near Haast by Carters, an Auckland-based firm, to mill private resources. Poor economics and a dwindling estate of unlogged private forest saw the mill close in 1979. Local people have mixed feelings about this saga. While concerned about the population loss, they were relieved to see the exit of a sizeable "rough" element in the imported work force and an end to large scale milling which threatened to turn the Haast plain into a wasteland. During their short stay, Carters felled most of the forest between the Okuru and Turnbull Rivers.

Carters were replaced by a small sawmill that eked out the remaining private timber. After several changes of ownership it closed last year because it was unable to sell its timber on the glutted South Island timber market.

Local confidence in the fledgling sphagnum moss industry took a nosedive last year as well when a sizeable moss plant on the old Carters mill site closed because of marketing problems.

The future – a realistic view

What of the future? June Johnston, local motelier and garage owner, takes a realistic view. "What we are seeing at Haast with the increasing emphasis on protection and tourism is part of a world wide trend. Unless we adapt we could end up as extinct as the moa."

June has joined forces with motor camp owner Brian Glubb and storekeeper Ian Rendall to explore new ways of capitalising on Haast's potential for nature tourism. They are ideal people for the task as they share a great love of the Haast environment. Each of them treasures a personal copy of Jonathon White's book of landscape paintings which features a striking cover painting of tall kahikatea swamp forest beside Ship Creek — Haast's answer to the Everglades. White, a Forest and Bird member from Edgecumbe, is a regular visitor to Haast and is considered by the locals to have captured the essence of the New Zealand rainforest better than any other painter.

Their delight in nature may come as a surprise but everyone at Haast it seems has a great store of fascinating anecdotes about the abundant wildife on their doorsteps. Birds that have disappeared from most parts of the country are commonplace here. A falcon recently put on an entertaining performance when it trapped a bunch of sparrows under a pile of bread crates outside the store.

Fernbirds and booming bitterns abound in the wetland alongside June Johnston's Erewhon Motel. Banded dotterel and godwits share the adjacent paddock with her herd of Timor ponies, a tourist attraction in their own right.

Brian Glubb tells of a kiwi hunt with the Wildlife Service in Waiatoto forest next to his motorcamp and hearing 14 individual bittern along the edge of the vast Waiatoto Swamp. Ironically, the extensive wetlands of the Haast plain mean that local shotgun enthusiasts have to stick to claybird shooting. The waterfowl have such a wide choice of wetlands they can easily avoid a handful of duckshooters.

The local residents' observations have made an invaluable contribution to our knowledge of wildlife in the Haast area. For example, *Powelliphanta* snails were first recorded in the area by Ian Rendall and a fellow deer shooter who had noticed seagulls collecting them in the Roaring Billy Valley.

Bird watchers' delight

Ian came to Haast in 1963 from the Orkney Islands. Attracted here by its natural beauty himself, he considers Haast has an untapped potential for nature tourism. "Bird watchers would have a field day here. Our forests are alive with birdlife and the wetlands teem with waterfowl and wading birds. You can even watch Fiordland crested penguins waddle across the beach from the roadside near Knights Point."

The Haast tourist operators have been impressed by Forest and Bird's South Westland Adventure Tours. Eighty people came on the three pioneering tours last year and spent a week with my wife Barbara and I enjoying the South Westland outdoors. One of the tours was run mid-winter to demonstrate the potential for winter tourism. Tourists traditionally avoid South Westland in winter, yet at this time of year the weather is usually fine and mild, while the snow-clad Alps are at their photogenic best.

Few people realise that the sunshine hours at Haast equal those of Christchurch. The plentiful rainfall usually comes in short sharp bursts (18 inches in 24 hours is the Haast record) and is quickly followed by

The Haast Experience

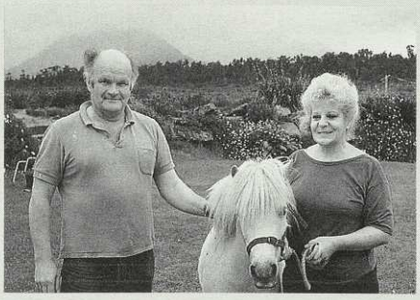
Too often the residents of South Westland have been depicted in a somewhat less than flattering manner. We would like to dispel the "chainsaw and box of matches" myth, once and for all. In fact, we would like to invite wilderness connoisseurs to add Haast to their "Must See" list.

Haast can delight you, it can frustrate you, but most of all it will challenge you. This is an environment which can bring endless enjoyment to those able to meet its challenges. A very wide range of activities can be arranged. Forest and coastal walks, historic Chinese gold workings, hunting, fishing, jet-boating, scenic flights, canoeing, rafting,etc. We have penguins, bitterns, falcons, kaka, fern birds, carnivorous snails, and fur seals, to mention but a few. In fact, the Haast area can offer a very wide range of activities to suit every pocket and ability. We locals think that we can enhance the Haast experience, and we are very keen to become involved.

We at this time are very actively involved in promotion, and would like to extend an unconditional welcome to all conservationists. Come and marvel at our mountain, rave about our rivers, fantasize about our forests and enjoy our exaggerations.

Ideally, the Haast Experience should relax the mind, sharpen the senses, purify the soul and exercise the body. Surely, the complete experience.

Ian Rendall



Ian Rendall, Haast store manager, June Johnston, motellier, and Topaz: "We would like to extend an unconditional welcome to all conservationists."

clearing weather. The locals also point out that if the weather was perfect everyone would want to live at Haast!

Haast people are keen to work with Forest and Bird to build on these successful tours. They want to encourage more tourists to spend a few days holidaying in South Westland rather than the usual overnight stop at the glaciers and a headlong rush to Queenstown or vice versa. June Johnston hopes to attract more Forest and Bird members. "They are ideal vistors. They always enjoy Haast and don't expect city-style entertainment."

Knocking down the barriers

This view is endorsed by Ian who believes it is time to "knock down the barriers" between Haast people and conservationists as there is so much to be gained through co-operation.

One way this can be achieved is to jointly promote sensitive tourist development of the region's natural areas. Top of the list is a visitors centre to inform tourists of the available attractions and activities. Attractions within easy reach of Haast that could be featured in the visitors centre include the following:

- seal and penguin colonies
- kahikatea swamp forests and unique sand dune forests
- Cascade Forest and the Red Hills
- Jackson Bay and the Smoothwater Valley
- Arawata Valley
- Lakes Ellery, Mary, Moeraki and Paringa
- Tawharekiri wetland and its 20km of canoeable waterways
- Landsborough River valley (rafting, tramping)
- Hooker-Landsborough wilderness
- Paringa-Haast cattle track

Brian and Phillippa Glubb, Haast motorcamp proprietors, are keen to see a Haast visitor centre established.

Other essential developments include the upgrading of existing sub-standard forest and coastal walks and the building of several strategically placed additional tracks. Haast could have New Zealand's first kahikatea swamp forest walk — at present most tourists can only peer at these incredible forests from the roadside. A track through the unique sand dune forest alongside the Hapuka estuary by the motor camp would also be popular.

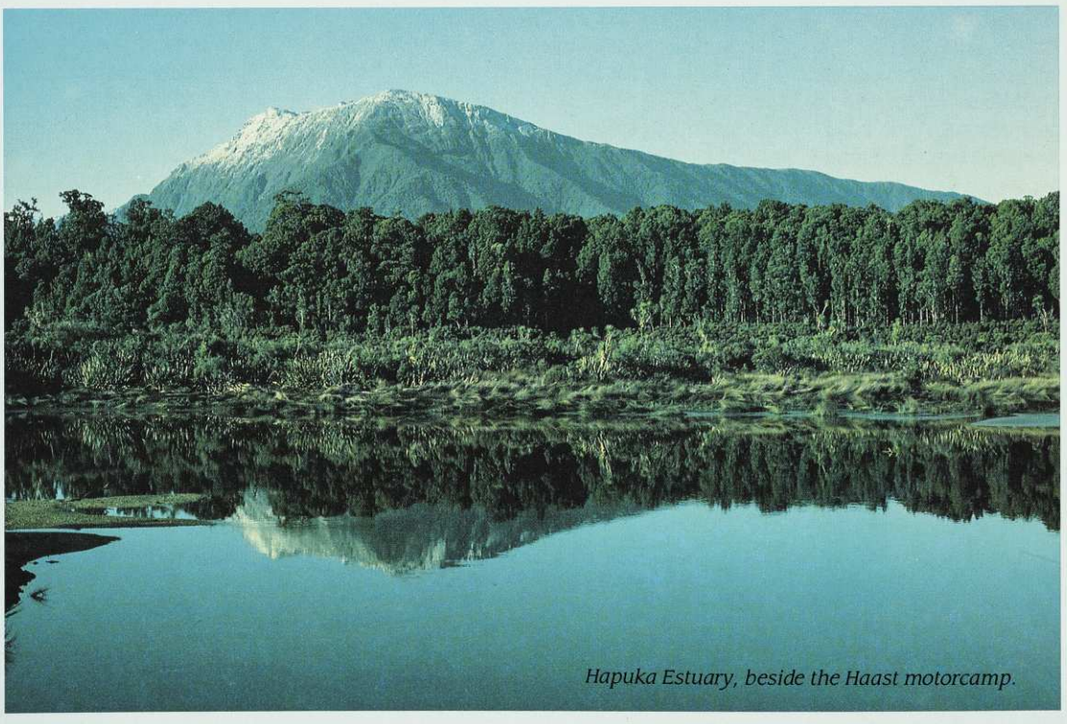
The Haast tourist operators are aware that they need to provide a greater range of activities for tourists. Brian and Phillippa Glubb are looking to provide canoes for hire so tourists can experience the quiet flax and kowhai-lined waterways that penetrate the forest behind their motor camp.

They are also hopeful DoC will resume the nature programme run at Haast in 1983-85, since terminated. DoC's guided activities and evening talks can play a key role in encouraging tourists to stay longer in the region.

John Dennes, one of the new owners of the 120-bed Haast Hotel, is keen to offer recreational activities to get the bus-bound and fly-drive tourists who stop overnight, out enjoying the Haast environment. The hotel works in with Aspiring Air, which offers scenic flights to Mt Aspiring and Milford Sound, and with local helicopter operator Dave Saxton who can land visitors at a beautiful alpine lake only a few minutes flying time from the hotel.

Tourism earns nearly a $100 million for the West Coast each year, far more than the troubled sawmill industry. In remote localities like Haast, it has a competitive advantage over sawmilling with which it is competing for the forests. This is clearly evident in the traditional tourist towns of Fox Glacier and Franz Josef, the only South Westland towns to prosper over the last decade. In Haast tourism is already one of the major employers and has a better growth potential than fishing and farming, the other economic mainstays. By co-operating with local people and promoting sensitive tourist development, conservationists can help make conservation more acceptable in this strategically located small community.

HAAST PEOPLE WELCOME VISITORS



Hapuka Estuary, beside the Haast motorcamp.

"Now you know what Haast has to offer, come and enjoy our beautiful environment."

For more information on a Haast holiday write to:
Ian Rendall, Store Manager,
PO Box 25, HAAST

Molesworth Controversy

by Gerard Hutching

Molesworth Station, 182,000 hectares in size, has long been a mystery to the general public. Ever since the huge inland Marlborough farm block was taken over by the Crown earlier this century, it has proved difficult for people to gain access to this high country wilderness.

However, the appearance of the Molesworth Strategy Plan in 1986 led conservationists and recreationists to believe that the former "lock-out" attitude of the farm management would change. The Plan admitted that few of the conservation or recreation values of Molesworth were known, but pledged to open up the station to the public.

Such was the intention; however, when Society conservation officer Kevin Smith organised a Forest and Bird trip to Molesworth in Labour Weekend last year, he found that old attitudes die hard.

In early October he arranged with station manager Don Reid that more than 100 people could visit the Acheron Valley, noted for its many lizards and large nesting bird populations (stilt, oyster catcher, shag, black-fronted tern, dotterel, black-billed gull).

Two weeks later Mr Reid contacted Barbara Devery, Kevin Smith's wife, to pass the message on to her absent husband that access was now denied on the grounds that the Forest and Bird group were "stirrers". Two days later Kevin Smith telephoned Mr Reid, pointing out that as a management plan was about to be released, a visit to the area would help the public make informed comment in their submissions. After a half hour heated debate consent was grudgingly given.

When a Forest and Bird field trip finally reached the area, they were accosted by a farm worker who demanded an explanation for their presence on the property.

Access was also a problem in the western zone of the station, where supposedly the public are allowed open access via the Electricity Corporation's road from Jacks Pass following the Clarence River past Lake Tennyson through to the Tarndale Lakes. At the weekend, however, there was a sign saying "private road, no unauthorized entry" at the first turn-off from Hanmer and a "road closed" sign and rope across the road at the St James Station, 30 km along the road.

Despite the discouragement, over 100 Forest and Bird members spent two marvelous days exploring Molesworth over Labour Weekend. They discovered many of the special plants of inland Marlborough, climbed mountains, watched many birds nesting in the Severn and Clarence riverbeds and came to understand a little of the past and present difficulties in farming Molesworth. For many the Molesworth visit was a nostalgic reunion. Nearly 60 years after his first trip through Molesworth on horse-back, Mr Alfred Gollan of Wellington came back to Molesworth and led many younger Forest and Bird members in a stiff two hour climb of Pudding Hill.

Hopefully the problems Forest and Bird experienced in gaining responsible access to Molesworth will be a thing of the past when the long promised management plan is finally released.

The 1986 strategy plan, on which the draft management plan is supposedly based, recognised the major public interest in access to Molesworth. It proposed opening up the western sector of Molesworth to public access at any time. The central sector along the Acheron-Molesworth station road was to be open to the public over January-February only. Public submissions on the strategy plan almost unanimously asked for more liberal access provisions. The Acheron road limitation in particular seems unfortunate. It is a good standard metal road built with public funds and should be available for use on a permit system at least for all summer.

Over this 1987-88 summer Conservation Department officials erected nearly 200 public information signs through Molesworth to guide visitors. They also operated a register of visitors.

Unfortunately in developing a management plan from the 1986 strategy plan officials have not consulted with conservation and recreation organisations. In his February 1987 decision to retain Molesworth in Crown ownership Deputy Prime Minister, Geoffrey Palmer set up a Molesworth management committee comprised of two DoC officials and two Landcorp staff chaired by Southland farmer, Bernard Pinney. This committee was charged with supervising a team to prepare the management plan and required by Mr Palmer "to consult closely with interest groups in the preparation of the plan." This was reiterated by then-Conservation Minister, Russell Marshall, in response to our concerns about being shut out of the plan preparation.

However the planning team's work has been conducted in total secrecy. The draft plan has been finalised. We have been informed by staff involved in the exercise that conservation and recreation remain subservient to cattle ranching.

No specific provisions have been made to reserve important natural areas such as sensitive wetlands. The plan does not abide by Government policy to destock severely eroded Class 7e and 8 mountain lands. It appears to have completely ignored most of the 175 public submissions on the earlier strategy plan.

The draft plan will shortly be circulated for public comment. It will be very difficult to change at this late stage unless there is a major public campaign to elevate the status of recreation and nature conservation on Molesworth. Your help will therefore soon be vital in writing submissions to change the draft plan.

The Molesworth news is not all bad however. Above all else, the property does remain in public ownership after our huge 1986-87 campaign. Despite access difficulties 100 people have explored the vast interior of Molesworth and discovered something of its magic.

Molesworth's natural treasures are also at last the focus of more intensive scientific study. Molesworth is being surveyed at present as part of the Protected Natural Areas Programme. The important step following the survey will be to reserve areas identified for their high conservation value.

Submissions on the Molesworth Management Plan are invited to Landcorp Box 794 Blenheim by 29 February 1988.

Hitch almost stopped Molesworth field trip

By JANE DUNBAR

A last-minute hitch almost prevented a field trip into the vast 182,000ha Molesworth station, at the week-end.

The trip was organised by the Royal Forest and Bird Protection Society and attracted 100 people from throughout the South Island. Last Monday, however, the manager of Molesworth, Mr Don Reid, telephoned the society to say that in spite of prior approval the group would not be allowed in after all.

It was pointed out to him, however, that a management plan for the station was soon to be released and a visit to the area would help members of the public make informed comment in their subsequent submissions.

He then agreed to allow access, and on Saturday morning the group travelled in by mini bus.

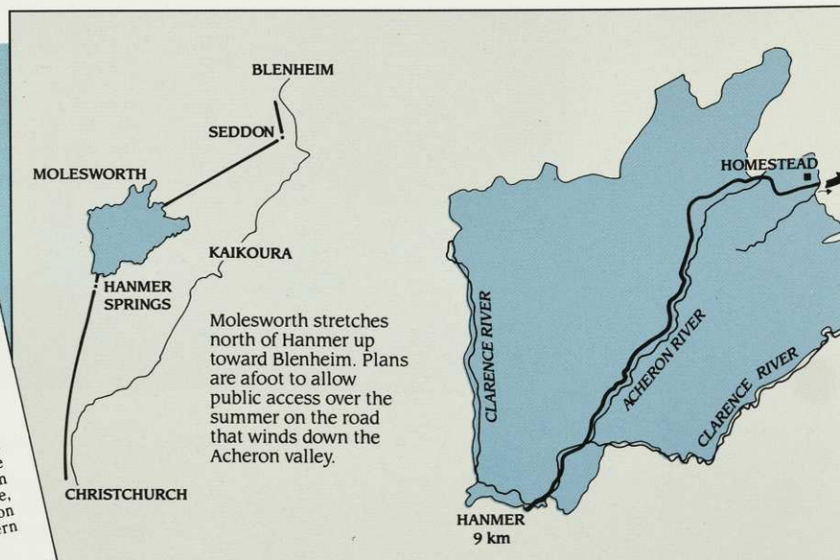
There were two field trips at the week-end. The first went up the Clarence River past Lake Tennyson up to the Island Pass and then down into the headwaters of the Wairau River at Tarndale.

On Saturday evening there was a discussion about Molesworth's future — the management plan and question of public access.

The society's director, Dr Gerry McSweeney, said he was disappointed representatives from Landcorp and the Conservation Department had declined to go on the trip.

"The era of shutting the public out of Molesworth is over," he said.

The second field trip went down the Clarence River to the old Acheron accommodation house, then up the Acheron Gorge to the Severn River.



Molesworth stretches north of Hanmer up toward Blenheim. Plans are afoot to allow public access over the summer on the road that winds down the Acheron valley.

Molesworth access conservationists' aim

By JANE DUNBAR

Foot access by responsible visitors over the whole of Molesworth is one of the hopes the Royal Forest and Bird Protection Society has for the future management of the high country station.

A management plan devised by Landcorp, the Department of Conservation and an independent chairman is reportedly complete and due for public release and submissions.

The director of the society, Dr Gerry McSweeney, said that "there is a minefield of difficulties to traverse in order to get on to this public land, and we're keen to see it doesn't apply for future generations."

Access was not particularly easy for the society on its field trip over the week-end. There is supposedly free public access to the western zone of the station via the New Zealand Electricity Department's road from Jacks Pass following the Clarence River through to the Tarndale lakes.

At the week-end, however, there was a sign saying "private road, no throughfare" at the first turn-off from Hanmer, and a "road closed" sign at the St James station.

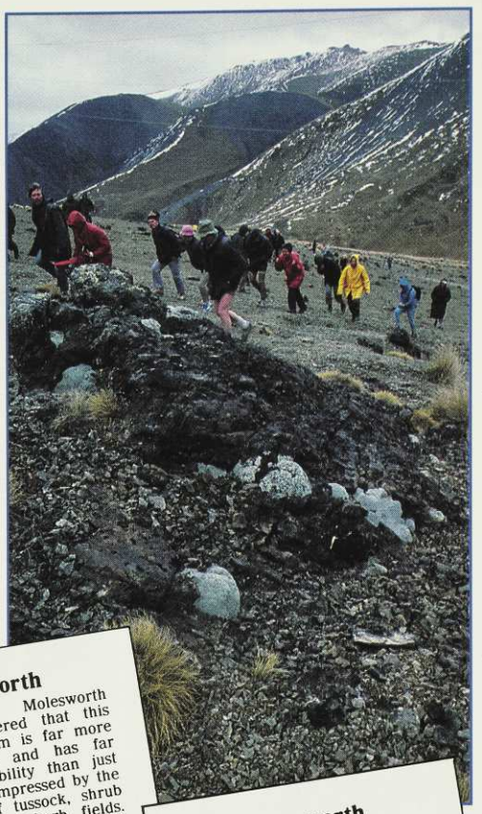
Special permission was required, and obtained, for travelling up the Acheron Gorge.

The society field trip was a "pioneering visit," said Dr McSweeney. It allowed people to learn about management problems and perhaps have some say on the station's future once public submissions on the management plan were called.

It had been disappointing that recreational and conservationist groups had not been asked for comment while the planning had been done, he said.

"Molesworth is a common heritage, something we all have an interest in. We hope it's managed for farming as well as the conservation of nature, soil and water, and scenery, and is available for recreation."

Molesworth station is a Crown-managed farming enterprise which at 182,000 hectares is New Zealand's biggest farm and carries about 10,000 head of cattle.



Mr Alfred Gollan on one of the horses used to trek through the high country station, Molesworth, as Mr Gollan did himself nearly 60 years ago.

Molesworth

Sir,—Visiting Molesworth Station I discovered that this high country farm is far more than just cattle and has far greater responsibility than just farming. I was impressed by the vast expanse of tussock, shrub lands, and alpine herb fields. The geology and land forms are fascinating and spectacular. I commend the management that has undoubtedly brought about a dramatic recovery of the landscape and improved the farm's economy since the Crown took control 40 years ago. I sincerely hope that Molesworth's new guardians, the Department of Conservation and Land Corp, continue to wisely manage this high country gem. Management must continue to respect the total Molesworth environment and plan ahead for more than just cattle. Examples of each habitat should be reserved, the Government's policy of retiring class 7 and 8 land should be implemented, and immediate attention should address the threat of wilding conifers and pine plantations. Let us ensure that the unique values of this high country environment can be maintained for the future. — Yours, etc.,

JEREMY ANDERSON.
October 29, 1987.

Molesworth

Sir,—I have been privileged to visit Molesworth over Labour week-end. For a long time I have had an absorbing interest in the history and ecology of this vast area. To see at first hand the grandeur of the landscape, the effect of human intervention and the efforts of dedicated people restoring some balance has been inspiring and humbling. Obviously now is the time for decisions to be made to put everything into perspective. The natural environment is fragile, climate extreme and management difficult, but there is a place, I believe, for people who are concerned and responsible to have a part in its future. The enthusiastic amateur would have a glorious time probing, investigating the environment and assisting the professionals to fill the gaps left by years of locked gates. Please let Landcorp, the Department of Conservation and conservationists get around the table to work out what is best for Molesworth. — Yours, etc.,

MICHAEL BEAVEN.
October 27, 1987.

Acquaintance renewed

By JANE DUNBAR

Nearly 60 years after his first trip through Molesworth, Mr Alfred Gollan was back again at the week-end to enjoy the vast grandeur of the 182,000ha high country station.

A member of the Royal Forest and Bird Protection Society's week-end field trip to the area, Mr Gollan recounted how he had travelled the outskirts of the station in 1929.

On a horse trek organised by Mr Joe Gibbs, of Nelson, Mr Gollan joined nine others on a 10 day trip which took them from the station's Top House to Lewis Pass and on to Springs Junction.

"When we arrived at the old Top House we were met by a young girl of 19, Joe's niece Gladys, who had brought up the 10 horses with her brother from Nelson," he said. "Gladys was one of the five girls on the trip."

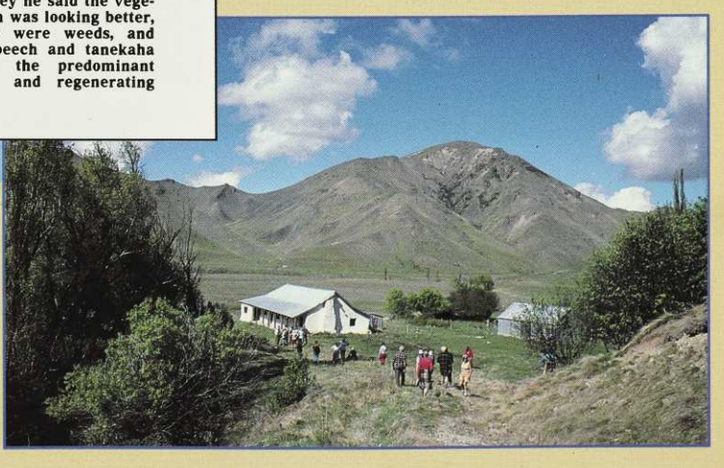
As the group travelled through the station they noticed rabbits had done a lot of damage to the ground cover. There was no evidence, however, of sheep or people.

At Tarndale there were a few cattle, and near the Ada homestead there were about 100 wild horses.

A near disaster was averted when in the early hours of one morning the trek horses escaped, and were heading back in the direction of the wild ones. An avalanche had fallen through the beech forest, however, flattening trees, and blocking the valley. The horses stopped there, and were recovered at dawn.

The party eventually reached the Lewis Pass where they saw the beginnings of the pick and shovel work being done to build the Lewis Pass highway.

Since 1929, Mr Gollan has made two return trips to Molesworth. In comparison with his first journey he said the vegetation was looking better, there were weeds, and the beech and tanekaha were the predominant trees and regenerating well.



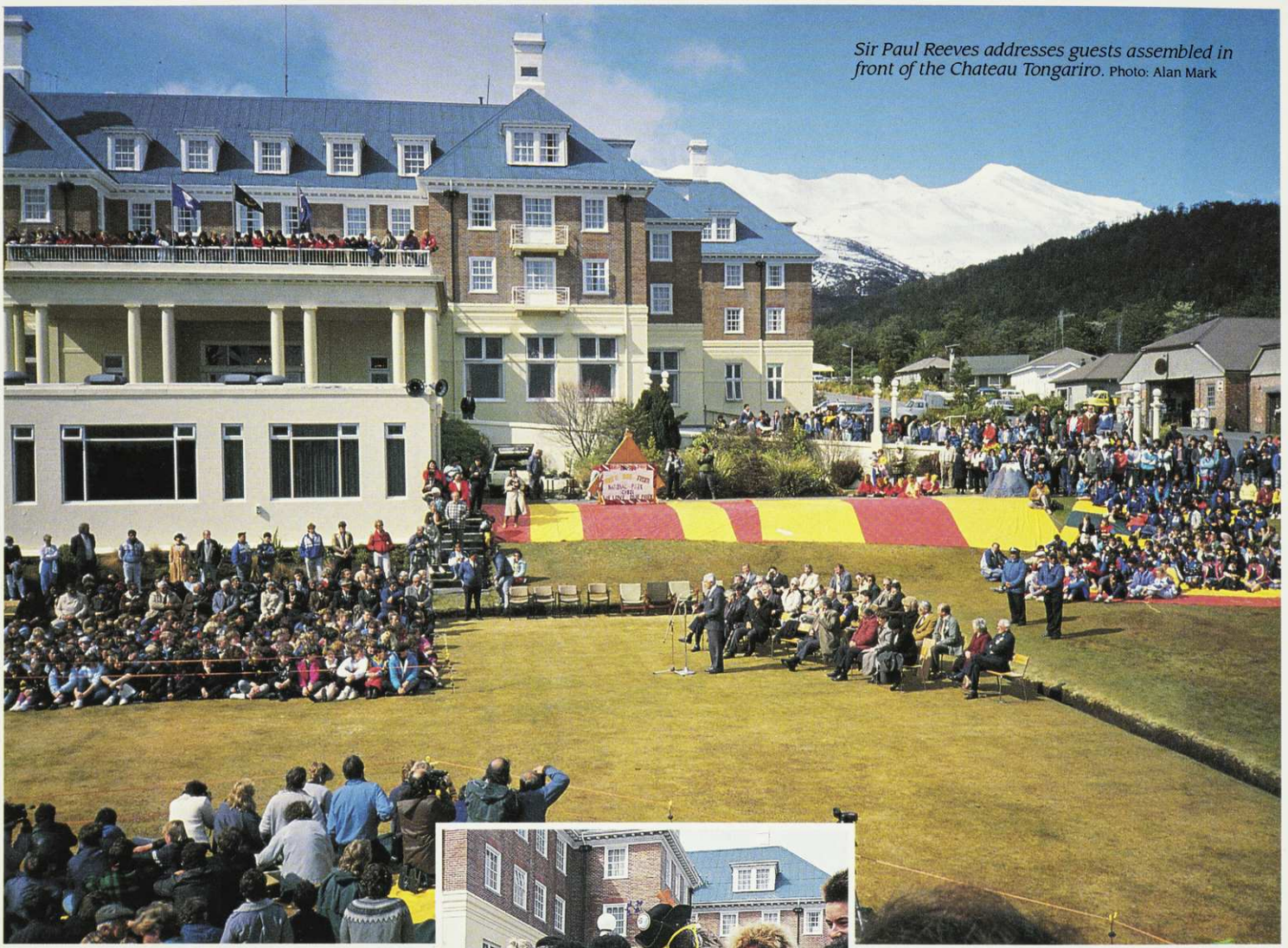
Top Right: *Sub-alpine day trip, Molesworth* Photos: Gerry McSweeney

Right: *Acheron accommodation house.*

TONGARIRO CENTENNIAL

A DAY TO REMEMBER

by Jocelyn Syme



Sir Paul Reeves addresses guests assembled in front of the Chateau Tongariro. Photo: Alan Mark

It was a day which blended past, present and future; Maori and Pakeha; young and old. A day which surely Te Heuheu Tukino IV, who gave his people's sacred peaks to New Zealand, would have been proud of.

September 23, 1987 marked the centennial of Te Heuheu's gift, which became New Zealand's first national park. Tongariro has been followed by 11 more national parks and three maritime parks.

Reinforcing those links with the past, Prime Minister David Lange gave the great grandson of Te Heuheu, Sir Hepi Te Heuheu, a framed copy of the original deed of gift signed 100 years ago.

And the world's first national park, Yellowstone, sent a commemorative plaque to the world's first national park given by the indigenous people.

But it was a day which above all else belonged to the thousands of people celebrating their park — particularly the tangata whenua, the Ngati Tuwharetoa.

The day itself dawned brilliantly clear after heavy rain. The mountains glistened with new snow and intensely black clouds scudded across the sky.

Kiwi and young admirer at the ceremony. Photo: Brian Enting.

For Huri Maniapoto, master of ceremonies for the day, the good weather was the answer to his prayers.

"We had that break in the weather just long enough for the celebrations — it poured down again at lunchtime. It was as if someone up there was controlling a switch on the weather.

"Certainly lots of our elders felt as if something or someone was around", he said.

The celebrations started with a dawn ceremony organised by the Ngati Tuwharetoa to pay homage to Mount Tongariro, to pay their respects to their ancestors and to lift the tapu on the park visitor centre extensions.

Time for the older people to remember the past, and time for everyone to ponder why "the old man" gave the mountains to the people of New Zealand.

It was a ceremony which moved many people to tears.

For Sir Patrick O'Dea, the chairman of the National Parks Centennial Commission, the success of the celebrations depended on the bringing together of today's successors to the original parties which signed the deed of gift: Sir Hepi Te Heuheu and the Tuwharetoa people, and Government officials.

"I felt the past and present came together very strongly under the shadow of the mountain. One of the things that impressed most people was the sight of Sir Hepi leading the haka party himself using his ancestral mere which belonged to his great grandfather Te Heuheu Tukino IV."

THE TONGARIRO DECLARATION

A CHARTER FOR NATIONAL PARKS AND PROTECTED NATURAL AREAS – THE NEXT 100 YEARS

On November 21-22 last year Forest and Bird fittingly held its council meeting at Tongariro National Park. There, the Society launched the Tongariro Declaration, a charter focusing on the next 100 years of national parks. The text of this historic document is reproduced below.

The national council of the Royal Forest and Bird Protection Society of New Zealand met at Whakapapa to mark the Centennial of our National Park system, which began there with the gift of the peaks of the Tongariro volcanoes to the nation.

While this is a time for celebration it is also a time of considerable concern for the future of our parks system.

Radical changes in public land ownership, its administration and funding, and in our traditional social philosophy has meant that the present and future of the system is not as secure as it should be after 100 years.

Therefore the Council of the Society recommends to the Government the following principles to ensure the adequate protection of these precious lands.

1. That a National Parks and Reserves system is a cultural benchmark of a nation.
2. The natural environment of New Zealand, its wildlife and plants have innate values which places them beyond the exigencies of current economics.
3. This public estate is held in trust for future generations through the system of National Parks and Reserves.
4. Such a system requires absolute protection, excluding the possibilities of pressure for exploitation by mining, development and other private interests.
5. This system requires national funding of a kind which places it beyond the pressures of economic changes and sectional interests, which seek an economic value and return.
6. The opportunity presently exists to identify the last remaining sectors of unprotected habitats to ensure that this generation will not allow the loss to the world, and all time, of places, creatures and experiences which distinguish New Zealand.

The Society identifies the following specific areas for immediate action to protect our endangered natural estate.

Identity

1. The explicit controls of the National Parks Act are the cornerstone of our internationally renowned parks system. These controls must be retained.
2. The Department of Conservation must create a separate National Parks Division at Central Office.
3. Each National and Conservation Park must be managed as a single entity.

Funding

Funds for National Parks must come from a specific vote so parks do not have to rely on tourism grants or income from concessions.

Wilderness Areas

Wilderness and specially protected natural areas must be maintained or added to with scrupulous protection from concessionaire use and tourism projects.

Public Involvement

Citizen involvement in all aspects of national parks is vital. This involvement through the National Parks and Reserves Authority and Boards has revitalised the profile and direction of our National Parks and protected areas.

New national conservation quangos must not diminish those avenues for public involvement that already exist.

Problems

1. The Department of Conservation should give the indigenous character of our National Parks priority. They should aim to eradicate introduced animals and plants where these threaten to invade pristine areas.
2. Marine ecosystems have not yet been given sufficient high quality protection. Marine areas require urgent assessment for protection with National Park status.
3. There are too many types of protected areas at present. Rationalisation of this unsatisfactory situation, with public input, is urgent.

Scientific Study

The importance of resource knowledge of conservation values of our national parks and reserves requires more emphasis. On-going monitoring must be implemented and maintained on wild animals, weeds, native flora and fauna, as well as tourism and recreational impacts.

Mining

Our National Parks face a major threat from mining companies. Mining threatens to debase the national and international identity of our national parks as totally protected areas.

Professor A F Mark
President

That haka is performed by the Tuwharetoa only on very special formal occasions, such as welcoming the Queen to Rotorua. It is a haka which can only be performed by the young and fit, as Huri Maniapoto explained.

"That haka soon eliminates those who cannot jump high! So some of us older people had to bow out to make way for the younger people.

"Those who were performing for the first time in front of nearly 5,000 people had a great sense of pride about what they were doing. For me, the stance of the Tuwharetoa haka group was most impressive and an important part of the ceremony," he said.

The Chateau Tongariro's bowling green was designated as a marae for the occasion, so all the rules of Maori marae protocol were observed during the formal, hour-long ceremony: complete with karanga, wero (challenge) to the Governor General and Prime Minister, powhiri, waiata and the official speeches.

Then came the grand finale: performances by nearly 1200 school children from six local primary and secondary schools.

The head boy at Tongariro High School, Greg King, was particularly impressed by the performance of children from the National Park Primary School. They mimed the creation story, with the separation of Rangi and Papa and how the world began from nothing.

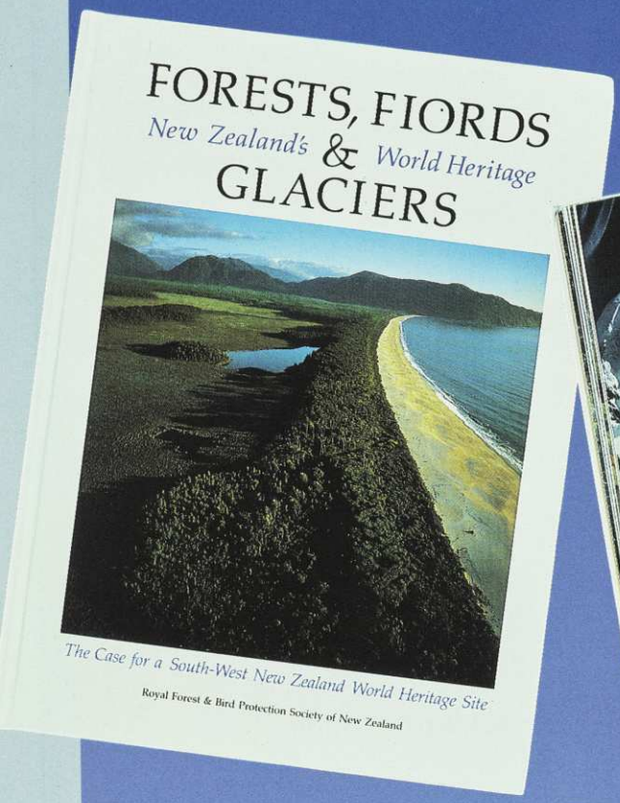
"It was really good to see Maori and Pakeha joining in as one people. They all got a great sense of pride from participating. You see them mucking around at school, and then performing the haka. It was an incredible transformation!" Greg exclaimed.

Taumarunui High School pupils enacted a protest against the exploitation of the mountains, telling the people of the Tongariro National Park today and how people are abusing it. Their performance included the erection of a ski tow with skiers tossing away giant-sized rubbish as they went. Cheerleaders scolded them, and told them to take their rubbish away with them.

The formal part of the ceremony ended with everyone singing the Centennial song, reminding everyone that Parks are for People, and that people have a duty to look after their parks.

This article has been reproduced from Centennial Contact, *No 8, October-November, 1987.*

Forests, Fiords & Glaciers
New Zealand's World Heritage



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TREADING A MINEFIELD

Mining companies are taking a more assertive stance in their quest for precious minerals; the conservation movement is proving equal to the task, having mounted a petition to reform mining laws. Guy Salmon outlines why the reforms are needed.

I believe the mining industry is too powerful for the good of New Zealand. Under New Zealand's existing laws, the mining industry is given a privileged status. It is the only land-using industry which:

- Can operate without the consent of the landowner
- Is exempt from the Town and Country Planning Act
- Pays a special low tax rate and retains other tax privileges
- Does not pay royalties for Crown resources it uses, namely gold and silver
- Can clear forest and disturb land in national parks and conservation parks.

The number of listed mining companies operating in New Zealand has doubled since last year and there has been an explosion of prospecting acitivity, much of it in conservation parks and national parks (see map). A large proportion of the mining companies involved have come from Australia, where they are accustomed to operating in desert regions with little or no environmental control. The Australian mining industry has recently won major campaigns to open mines inside national parks, and to deprive aboriginal peoples of the right to say no to mining on their lands.

An opencast coal mine near Rotowaro in the Waikato. Water discharges from coal mines have caused significant pollution problems in lakes and rivers. The effluents from the hardrock gold and base metal mines now being contemplated are much more toxic and difficult to manage. All photos Guy Salmon

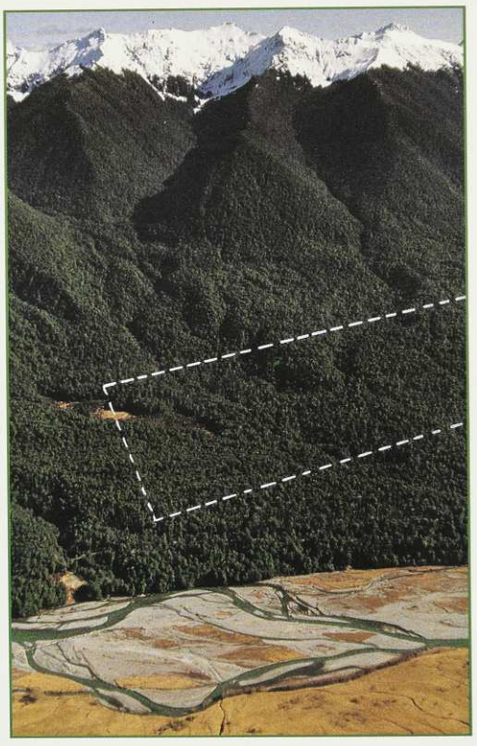
We have reason to fear what will now happen in this country. The Australian mining industry's established attitudes and practices are a distinctly unwelcome import into New Zealand. We have too much at stake in this country, both in terms of our race relations and the quality of our natural environment, to allow the mining industry to develop the sort of unbridled power it has in Australia and many Third World countries. Unfortunately, our mining laws at present offer little protection for the values we cherish in this country.

Nationwide petition

The conservation movement has decided to mount a major effort to reform New Zealand's mining laws. A nationwide petition, the Wharepapa Declaration (see box) has been launched by the Native Forests Action Council. The aim is for this petition to be of similar size and historic impact to the Council's earlier Maruia Declaration petition on native forests.

It should be stated at this point that while we must reform our mining laws, there can be no room for an anti-mining attitude. Modern society clearly depends on the products of the mining industry; equally clearly, there are a number of reasonably responsible mining companies. We must encourage companies of that sort. It is unfortunate however that the New Zealand Mineral Exploration Association has become dominated by those who take an aggressive stance in opposition to conservationists, planning authorities and even private landowners.

It is this hardline stance by the mining industry which has to date stymied efforts to reform the mining laws. A series of meetings held last year between industry representatives, conservationists, Maori interests and government officials came to nothing.



After a long public campaign, the superb virgin beech forests of the west bank of the Maruia Valley were saved from a 140-hectare opencast gold mine through a Ministerial veto. The proposed mine site is marked with a dotted line. This scene reminds us that citizen protest can be successful against the mining industry. And it emphasises the importance of retaining the existing powers of the Government to intervene and stop proposed mining developments in cases like this, where the losses would outweigh the likely benefits.

The Hearn Report

There is no lack of desire by all parties for the mining laws to change. But the mining industry wants more freedom including the guaranteed right to override other land users. The Treasury and the Department of Trade and Industry are pressing for the privatisation of the Crown's mineral resources and the operation of a free market in minerals. For advice on the conflicting arguments on the planning and resource laws, the Government last year appointed Mr Anthony Hearn Q.C. to prepare an independent report. Mr Hearn's report was published in August.

Following the ideas developed in the Treasury, the Hearn Report favours privatising the Crown's mineral resources and thus getting the Crown out of any decison-making role in relation to the licensing of new mines. The Town and Country Planning Act would be the only direct means of control over mining, and this Act would be amended to provide that mining was a matter of national importance. The Conservation Act and Reserves Act would also become subject to the Planning Act and the Minister of Conservation would lose her power to say no to mining. Environmental assessment procedures are also unnecessary according to the Hearn Report.

The Cobb Valley, located in the North West Nelson Conservation Park, was chosen as the launching place for the Wharepapa Declaration petition on mining. This glorious mountain valley is threatened by the mining giant CRA, which is looking for a gold mine of 20 million tonnes or more, and wants approval to carry out extensive earthworks under a prospecting licence.

Under the Hearn scenario, the mining industry would have a field day, especially in provincial areas where local authorities favour mining as a means of boosting business on main street. Conservation organisations want the Government to reject the proposals in the Hearn Report. We are anxious to retain ultimate political accountability for decisions to open land for mining.

There are precious few good features about the present mining laws, but political accountability is one of them. The Government has the power to say no to the mining of Crown minerals even when the Planning

Tribunal has recommended in favour. The Government does not, however, have the power to water down any conditions and safeguards attached to a Tribunal recommendation. Unfortunately the Tribunal operates under a law whose object is to facilitate the development of mineral resources.

Power to say no

Nonetheless, the Government retains a broad reserve power to say no, a power which might rarely be used but remains important.

The Minister of Conservation also has the power to consent or refuse a mining privilege on lands controlled by the Department of Conservation. The department has recently published guidelines for mining and prospecting which represent a brave effort to ensure such activities do not compromise the value of its lands. Submissions on the proposed guidelines are due with the department on 30 March. There can be little doubt that the present Minister will be conscientious in the exercise of her responsibilities, but conservationists worry about what could happen in future. With the wrong sort of Minister and a continued lack of legal protection for national parks and conservation parks, the guidelines could be pushed over like a card house. What is really needed is for these prime natural areas to be exempted by law from mining.

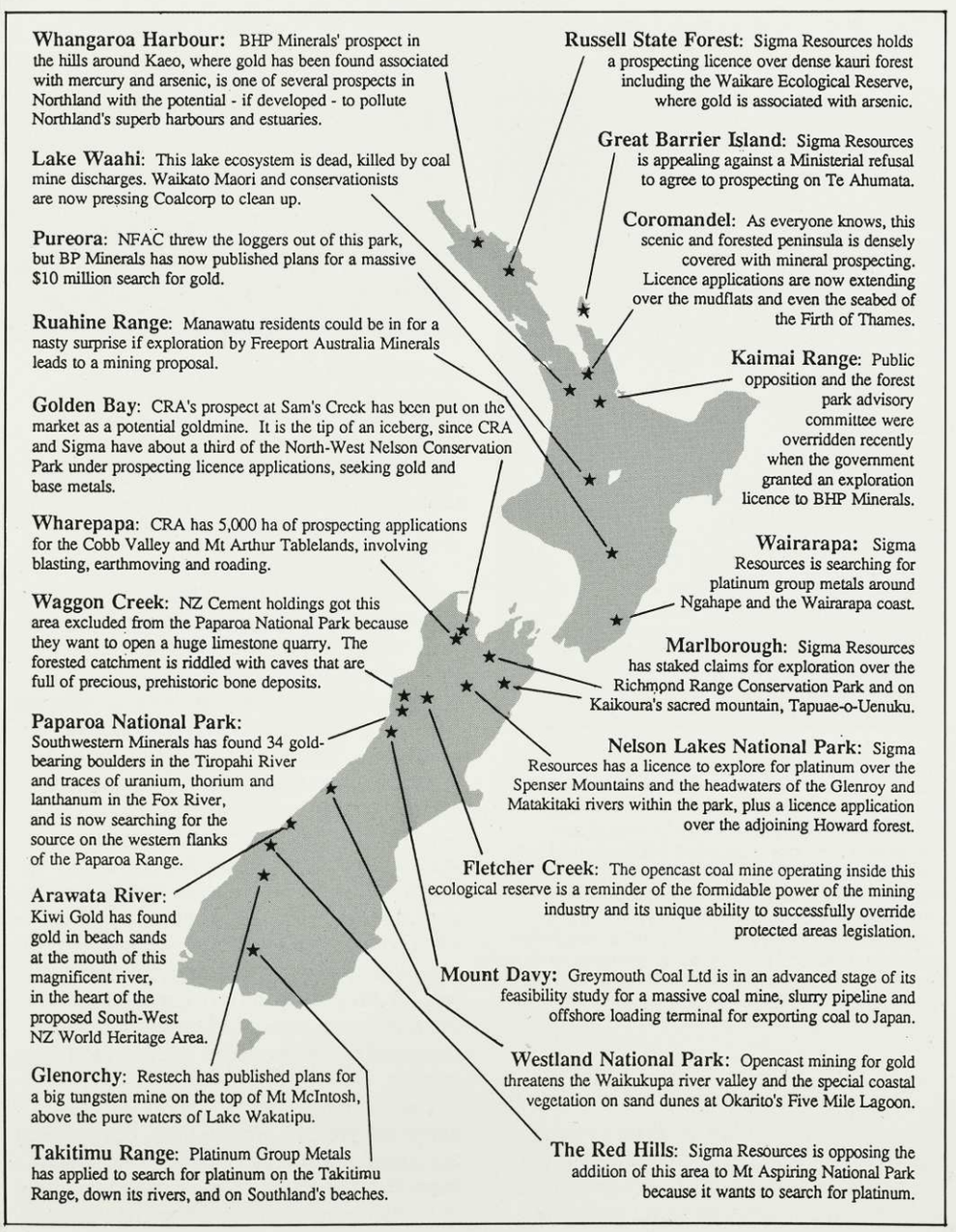
The conflict between the mining industry and our great conservation parks like Northwest Nelson and Coromandel is a prime example of the difficulty of applying a more market approach to such matters. The very high value of some gold deposits can readily be expressed in money terms. Mining companies can aggressively demand that those money values must be weighted against the values of park lands and water which, on the face of it, seem to have little tradeable value. Yet most New Zealanders would be in no doubt about the intangible values which these areas have for the protection of native forest and for public enjoyment — the purpose for which they were set aside in the first place.

Closed to mining

Decisions about mining in such areas obviously cannot be left to market mechanisms. Nor can they be left to Planning Tribunals to adjudicate, unless we are prepared to abandon the non-political, judicial character of the Tribunal. One solution is to take a collective decision as a nation that our national parks, conservation parks and reserves will actually be closed to mining. It is a great credit to the conservation spirit of New Zealanders that nine out of every ten people approached are willing to sign a petition calling for just that solution.

More than 80 percent of New Zealand's land area would in any event remain open to mining, and here there is some greater scope for using market mechanisms. For example, the rights of landowners to undisturbed enjoyment of their land can be reinforced by removing the override provisions in the Mining Act and thereby leaving the winning of landowner consents to the market. The payment of substantial bonds by mining companies and the extension of liability for mines and tailings dumps long after they have ceased operation can provide powerful market incentives for good environmental management by the mining industry. Conservationists would not stand in the way of reasonable measures to reduce administrative procedures and delays, but we feel the Planning Act should apply to mining on private land, just as it does to other industries.

In the end, however, an adequate reform of New Zealand's mining laws must accept that some areas of New Zealand should never be mined, and accordingly, that the minerals in those areas should be left in the ground.



The Wharepapa Declaration

Petition to Parliament on Mining

We the undersigned wish to see the laws relating to the mining of minerals and coal reformed to include these principles:

LANDOWNERS' RIGHTS: The consent of the landowner and occupier should be required before prospecting or mining can take place.

PROTECTED LANDS: National parks, reserves and specially protected areas should be closed to mining.

PLANNING: On all private lands, a planning consent should be required before a mine can be opened up.

GOVERNMENT: The Crown should continue to own its minerals. It should retain its existing powers to decide whether its minerals should be prospected and mined, subject to landowner and planning consents. It should uphold the principles of the Treaty of Waitangi in relation to mining.

EQUITY: The Crown should charge a royalty for the use of the minerals it owns. And it should make mining companies pay tax according to the same rules as other companies.

Petition forms are available from the Native Forests Action Council, PO Box 756, Nelson.

Wellington sewage : An environmentally acceptable solution

Wellington and Hutt Valley sewage pollutes 1500 ha of coastal waters around the entrance to Wellington Harbour. Raw sewage is discharged at Moa Point from much of Wellington City and milliscreened raw sewage from the whole of the Hutt Valley is discharged opposite at Pencarrow. But as Lower Hutt branch member Russell Bell reports, a combined approach could solve the problem.

Sewage is a hot political issue in Wellington. In 1986 it led to the downfall of sitting mayor Ian Lawrence because he would not make a commitment to land-based secondary treatment.

Wellington residents have twice voted for secondary treatment for their sewage and a Hutt Valley Drainage Board survey in 1986 showed almost 70 percent of Hutt Valley residents favoured land-based secondary treatment.

With its mandate, the Wellington City Council is now pushing ahead to find a suitable treatment plant site. But by contrast the Hutt Valley Drainage Board seems determined to proceed with a long outfall for raw sewage.

Wellington City Council's consultants have narrowed the possible sites down to two, either Karori Stream, south-west of Wellington, or Gollans Valley, on the eastern side of Wellington Harbour.

For sewage to go to Karori Stream, the pipeline would have to cross the active Wellington fault and a coastal scientific reserve.

The Gollans Valley site also has its difficulties: the pipeline would have to go under Wellington Harbour, and the original plans placed the treatment plant directly above the finest freshwater wetland in the region. The wetland stretches 3 km up Gollans Valley from Lake Kohangatera, its dense raupo and flax swamp the home of bittern, spotless crake, grey duck, pukeko, and other waterfowl. Many large eels, giant kokopu and other native fish are found there. For many years the Lower Hutt branch has been trying to achieve protection for this magnificent area.

After studying the problem, a group of Lower Hutt and Wellington Forest and Birders have found an environmentally acceptable site: Wry Valley, a side valley of the main Gollans Valley. It has a number of advantages:

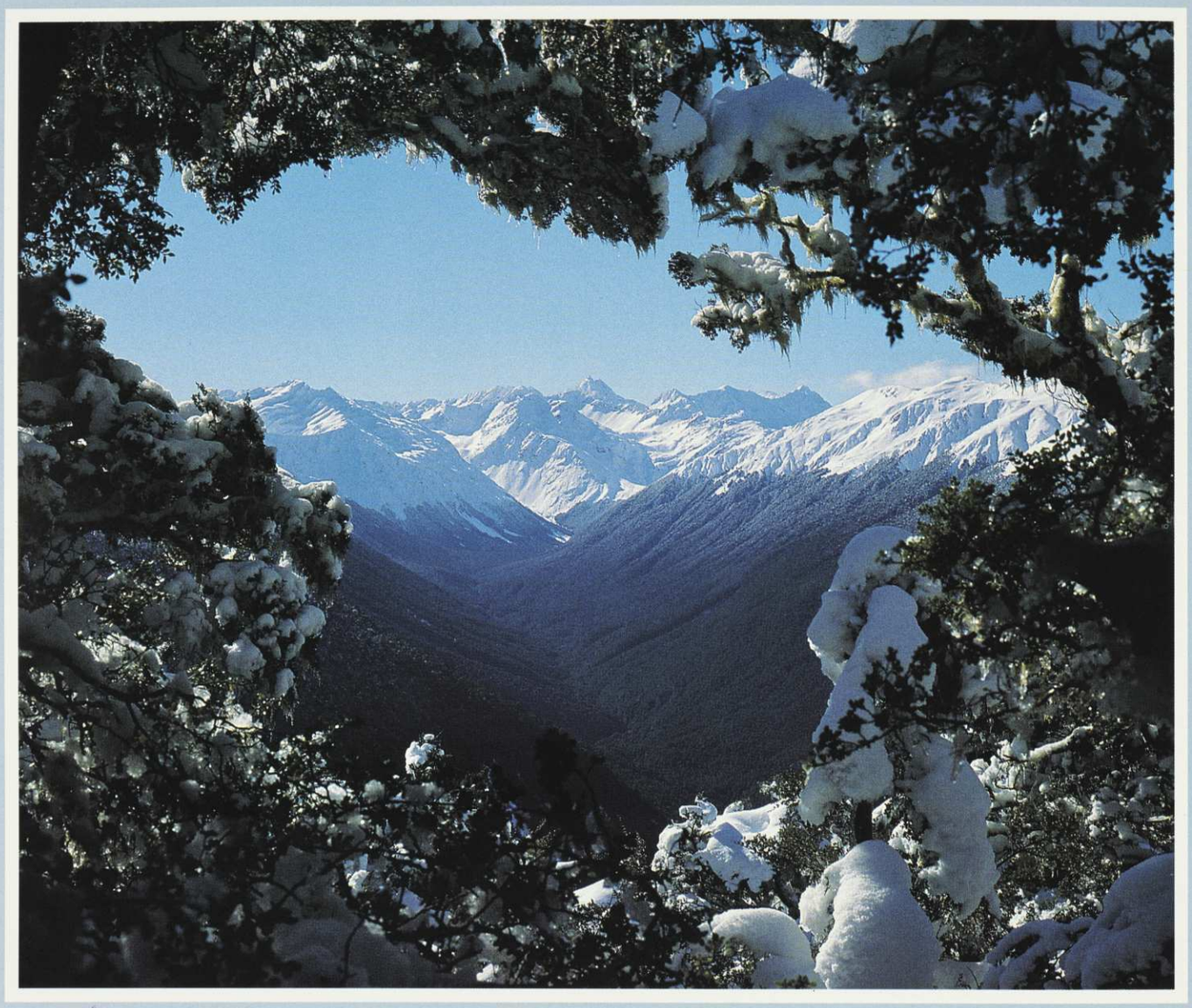
- There is sufficient area for treating both Wellington and Hutt Valley sewage;
- It is cheaper than a long outfall for Hutt Valley sewage;
- The surrounding bush and farmland could be bought for a 3000 ha Regional Park to complement existing bush reserves behind Eastbourne.

Forest and Bird's Wry Valley site has the endorsement of most Wellington environmental groups and the Wellington District Maori Council.

It appears that a start to cleaning up Wellington's coast is imminent; joint treatment would reduce sewage bacterial levels by 99 percent and see a 95 percent reduction in sewage-contaminated water. The sewage pollution signs can then come down from 10 km of Wellington coastline and in a few years swimming and shellfish gathering will once again be possible.

Top: *Lake Kohangatera, below the freshwater wetlands of the Gollans Valley. Few such wetlands remain in the Wellington region; this would be a worthy addition to a regional park.* Photo: Gerard Hutching. Bottom: *The freshwater wetlands of Gollans Valley, regarded as the finest in the Wellington region.* Photo: Mark Bellingham

Capturing the Landscape



View from above Lewis Pass

Landscape Impressions

A guide to photographic illustration by David E. Harding

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DEAN · ROWALLAN · LONGWOOD

. . . Southland World Heritage Forests in Danger . . .

By Gerry McSweeney, Conservation Director

Three magnificent lowland beech and rimu forests cover rolling hills on both sides of the Waiau River valley east of Fiordland National Park. Together with the adjoining 45,000 hectare Waitutu State Forest these publicly-owned lowland forests complement the mountains of Fiordland National Park. Dean and Rowallan are both part of the proposed South-West New Zealand World Heritage Site, and at present Rowallan forest is being ransacked by the Forestry Corporation at taxpayers' expense.

When the Fiordland boundary was drawn in 1904, Dean, Rowallan and Longwood forests were excluded from protection because they contained merchantable timber. Today, although their conservation values are finally being recognised, Rowallan is being devastated by woodchipping and Dean and Longwood are threatened with sale to the Forestry Corporation for logging.

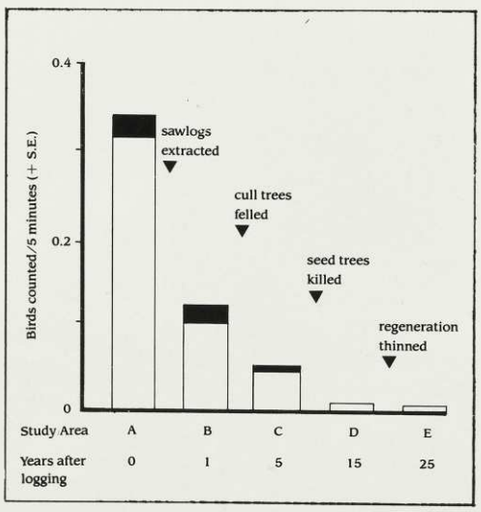
The Government will determine the future of these forests by March 31 this year and Environment Associate Minister Philip Woollaston has promised that if they are zoned for protection the forests will be included in a World Heritage nomination for South-West New Zealand.

Lowland Wilderness Vital for Wildlife

The forests are important for two reasons: they protect the ecological integrity of Fiordland by preserving a sequence of forests from lowlands to mountains, and they are crucial to the future of seriously threatened native birds such as kaka, parakeet and yellowhead. They are a national stronghold for these spectacular birds.

"All the remaining virgin forest including old cutover with a regenerated canopy must be excluded from timber production areas," was the strong message from the Conservation Department to the Government in recent land allocation negotiations.

Conservation Department staff, and before them the Wildlife Service, have carried out bird surveys throughout the forests. Nationally important populations of kaka and parakeet were found. These parrots need extensive areas of unmodified forests — particularly beech forest — for feeding and breeding.



Pattern of how parakeets responded to logging in Rowallan forest. Birds showing a similar reaction to logging are pigeon, rifleman, kaka (pictured) and yellowhead. The decline in bird counts comes about because the old trees with nesting holes have been removed. Even after 25 years very few of these birds are recorded in logged forests. (from Beech management – its effect on bird population, *by Eric Spurr, Forest Research Institute).*

In addition the surveys show that yellowhead are common in parts, especially in the valley floor beech forests. Such forests have largely been cleared elsewhere in New Zealand. Confined to the South Island, yellowhead have suffered a major contraction in their distribution since the 1950s, and are mostly found in the native, lowland forested valleys around the Landsborough Valley (South Westland) and east of the Main Divide in Otago and Southland.

The Forest Research Institute has carried out a wildlife survey of cutover parts of Rowallan forest, which shows that logging eliminates yellowhead, kaka and parakeet from the forest and that even after 25 years the birds do not return. This is because the mature and old trees which are rich in insect food and also offer nest holes for breeding have been logged out.

The insanity of one section of government spending millions to save some endangered species for extinction, while another pushes other threatened species to the brink of extinction, is nowhere better highlighted than in these Western Southland forests.

So far DoC's plea for protection has not been successful. Much of Dean, Rowallan and Longwood remains zoned for logging. However, conservationists have recently succeeded in retaining the forests in interim Crown control with the Department of Lands, after they were initially scheduled in early 1987 for sale to the Forestry Corporation.

The most immediately threatened of the World Heritage forests are in Western Southland. Logging has now extended almost to the east branch of the Rowallan River along ridge crest roadways. The valley beech and rimu forest will be next to go if the Government renews logging contracts later this year.

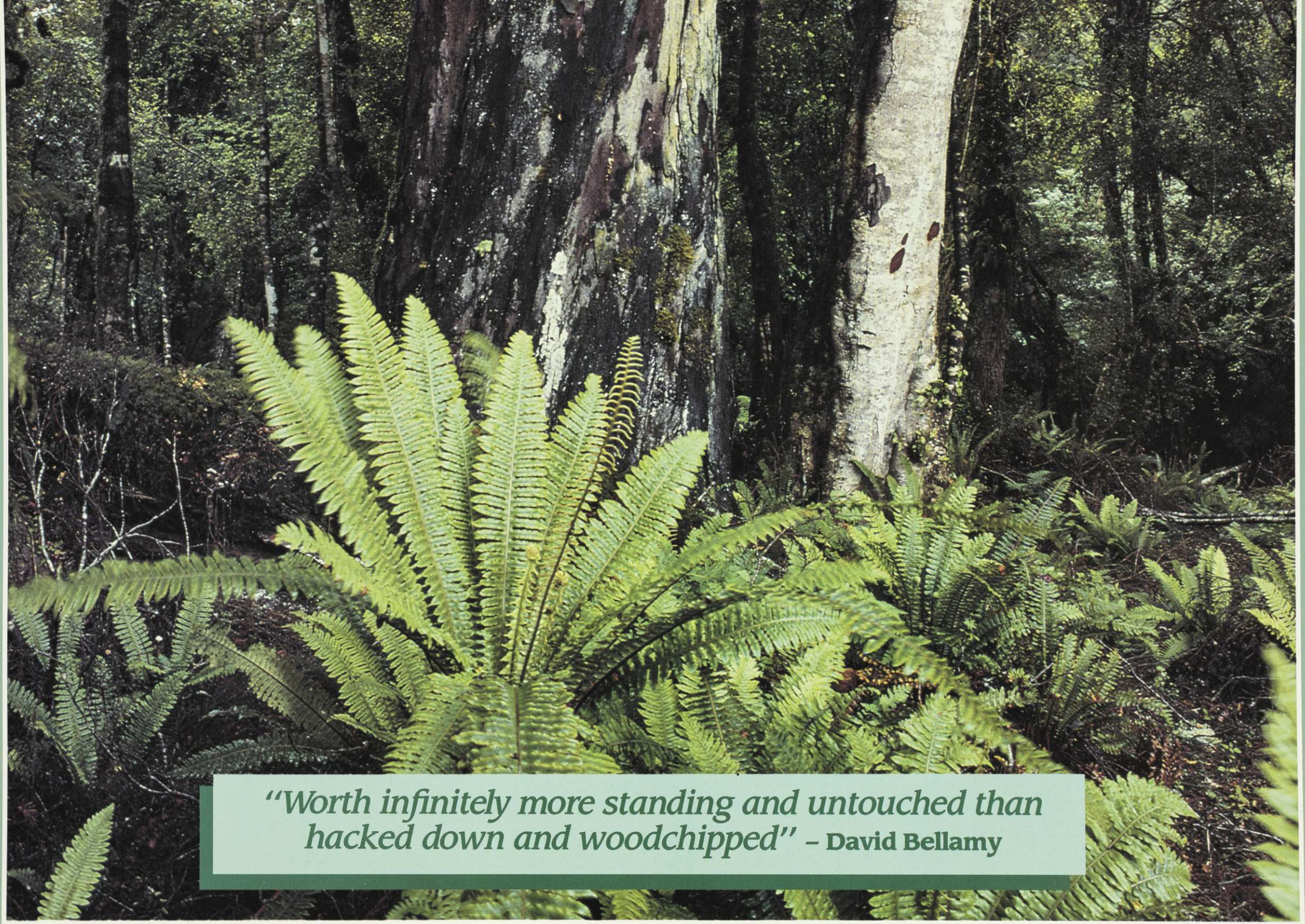
Corporation Push for Logging

The Forestry Corporation are pushing hard for ownership of the forests. To back its case it has recently organised a PR tour of Rowallan for Southland local authorities. The Southland United Council has asked for logging to continue, and the Auckland-based company Wood Export Tokanui Ltd (also part Japanese-financed) which runs the huge Awarua woodchip mill near Invercargill is also lobbying hard for continued chipping in Rowallan.

The Awarua mill is described by Southland Forest and Bird secretary Audrey Gamble as a "blight on the province". From Rowallan in the west to the Catlins in the east, the mill is stripping forest off publicly and privately-owned land.

Rowallan State Forest now has the dubious distinction of being the scene of the largest native forest logging operation in New Zealand. There is a long term sale of 8000 cubic metres of beech and rimu sawlogs to the Lindsay and Dixon (now Paynters) sawmill in Tuatapere. This expires on July 31 this year. Arising from this logging is around 40,000 cubic metres of woodchip which goes to the Awarua mill. Conserva-


Write for the forests right now!



"Worth infinitely more standing and untouched than hacked down and woodchipped" – **David Bellamy**

Logging site – Rowallan forest.
"The sensitive management practices advocated by the United Council would not result in the wholesale destruction of bird habitat." (W J Watt Southland United Council 24/8/87). "The area of land logged annually is relatively small with no harmful effects." (Wood Export Tokanui Ltd in Southland Times 27/8/87). Photo: Gerry McSweeney

tionists have also only recently discovered that the Forest Service in its dying days in October 1986 pushed through a further woodchip sale of 30,000 cubic metres per annum from Rowallan. This also expires on July 31 this year.

Fifteen Times the Sustained Yield

This sale was contrary to the provisions of the ministerially approved 1981 Southland Regional Management Plan.

Total timber sales from Rowallan are therefore about 78,000 cubic metres per year – 90 percent as woodchips sent direct to Japan. This is 15 times the sustained yield calculated for all the Western Southland beech forests.

If the logging was switched immediately onto a sustained yield basis, employment in managing and processing would total about 15 jobs. Should logging be halted immediately these 15 jobs would be lost, but there need be little social impact as a massive volume of pine is coming on stream from 1990 onwards. If an advanced cutting strategy is adopted, many additional jobs will be created. Already Tuatapere's Lindsay and Dixon mill has chosen to substitute exotic pine for part of its beech entitlement.

Heavily Taxpayer Subsidised

Ironically logging in Rowallan is a big loser – about $250,000 annually according to a 1986 Native Forests Action Council study. This does not include the costs of the loss of a virgin forest and its wildlife. Hoping for better economic results, the Forestry Corporation conducted another economic analysis. Their staff admit their study showed Rowallan logging to be "economically unattractive."

Southland Forestry Corporation manager Dennys Guild said in a *Southland Times* interview that: "the operation has not made a profit for the Forest Service." He admitted that even under a more efficient corporation it "would never be a money spinner." (20/3/87).

What You Can Do

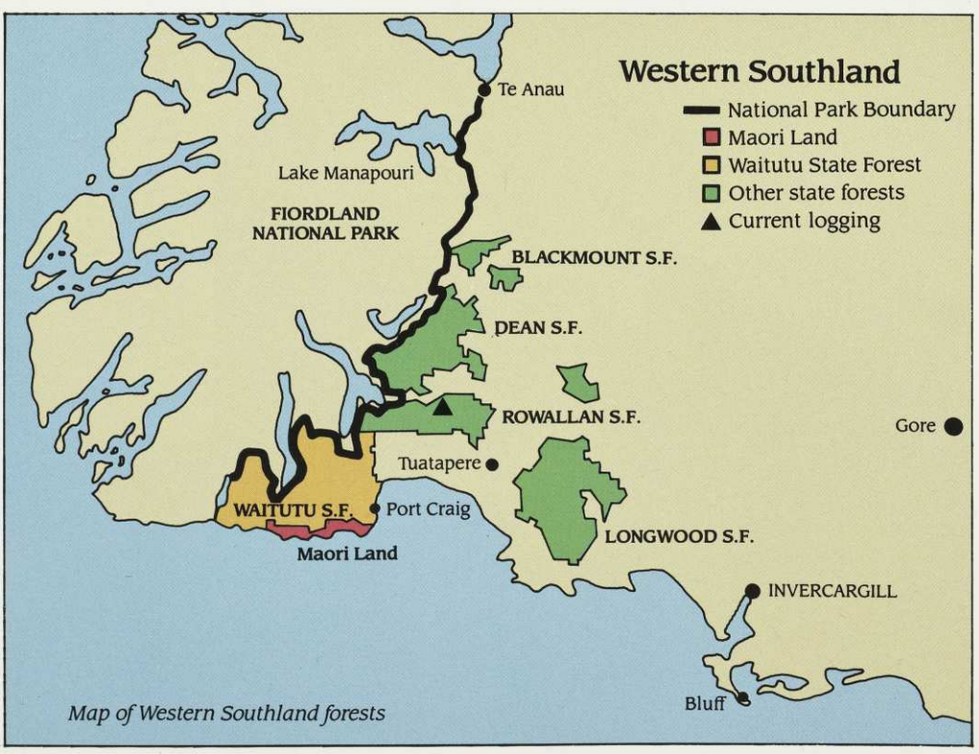
Now is the time to influence the future of Dean, Rowallan and Longwood. The Government is due to make decisions on them by March 31 this year.
The Government must get the clear message from New Zealanders that woodchipping our heritage is not on. They will respond to widespread public concern.

Please write immediately to the Prime Minister, the Minister of Conservation, the Minister of State Owned Enterprises and the Minister of Finance, C/- Parliament Buildings, Wellington, and let them know your view. Please also send copies of your letters and replies to Forest and Bird, PO Box 631, Wellington so we can also lobby on your behalf. If you need any more information, don't hesitate to contact us.

Straightforward Solution

The issues in Southland are therefore straightforward. On the one hand we can either allow a huge, predominantly woodchipping operation to continue in World Heritage quality rainforests, thereby endangering a national stronghold of kaka, parakeet and the yellowhead. The operation squanders taxpayer money and provides only a handful of jobs in the long term.

The alternative is for the Government to move quickly to protect the forests and their wildlife. Dean and Rowallan forests would become part of a South-West World Heritage Area. They would form a natural gateway to southern Fiordland and offer opportunities for lowland forest walks and drives. Any job losses could be prevented by adopting an advanced cutting strategy for Southland's exotic forests. Alternative high quality beech timber will remain available for furniture from the sustained yield forests in Westland, agreed for sale to the Forestry Corporation under the 1986 West Coast Accord.



Map of Western Southland forests

Petrocorp shows the way

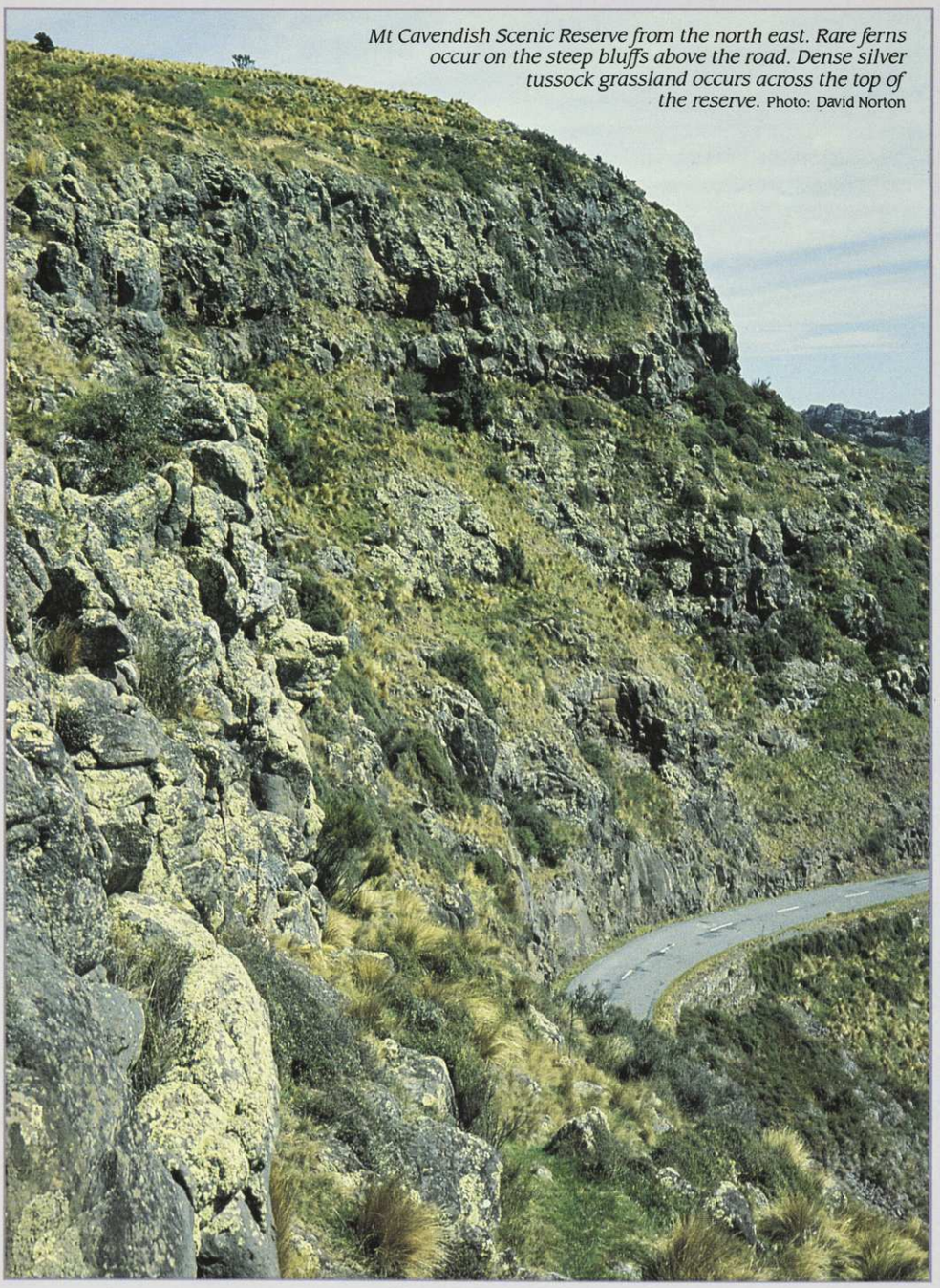
In October last year oil explorer Petrocorp decided to shift its proposed oil drilling from virgin beech forest in Western Southland on to adjoining farmland.

Protests from Forest and Bird persuaded Petrocorp to make the shift, after they had earlier decided to clear a 1.8 km long road through virgin forest in Rowallan, then clear a further 3 hectares of forest to set up the oil rig. Instead, they are now drilling on an angle underneath the forest from farmland adjacent.

The cost of changing their rig position would have run to several hundred thousand dollars.

It is too much to hope that the Forestry Corporation will show a similar sensitivity over the beech forests of Western Southland?

Preserving a Reserve



Mt Cavendish Scenic Reserve from the north east. Rare ferns occur on the steep bluffs above the road. Dense silver tussock grassland occurs across the top of the reserve. Photo: David Norton

The creation of reserves is usually greeted with sighs of relief by those who have been advocating them, especially if their creation involved battles with bureaucracy or developers. However, as these two reports make clear, that is not the end of the story — in some cases the battles might have just begun.

Case 1: Mt Cavendish Scenic Reserve Gondola Proposal

by David Norton and Colin Burrows

The Mt Cavendish Scenic Reserve is one of 15 scenic reserves along the Port Hills above Christchurch which together make up a combined area of only 319.6 hectares — approximately 0.03 percent of the Port Hills. Such reserves have immense importance from a recreational, scientific and aesthetic point of view.

Ever since a recent proposal to build a gondola top station and restaurant on the reserve, Mt Cavendish has been at the centre of controversy. The application, by PAYEO Developments Ltd, was turned down after the Canterbury United Council advised the Lyttelton Borough and Heathcote County Councils that it contravened the Summit Road (Canterbury) Protection Act 1963, an Act administered by the United Council. Since then the developers have taken the decision to the Planning Tribunal which is due to hear it soon.

The Royal Forest and Bird Protection Society is of one of several groups that have

joined forces to oppose the gondola, believing that it would adversely affect the Heathcote Valley as well as the scenic reserve.

Forest and Bird, along with the Canterbury Botanical Society, are opposing the gondola on the grounds that it will create a precedent for similar future development in other scenic reserves and protected natural areas. The Reserves Act (1977) clearly states that developments are permissible in reserves **to the extent compatible with the principal or primary purposes of the retention and preservation of the natural and scenic values** of the reserve and where these are necessary to enable the public to obtain benefit from the reserve.

To our minds the gondola is not necessary to allow the public to benefit and enjoy the reserve as access is easily obtained by stepping out of a car and walking on to the reserve. On a recent Canterbury Botanical Society field trip, 70 and 80-year-olds were easily able to reach the top and enjoy the fine views in all directions. The Christchurch City Council's management plan for the reserve reiterates this point, and also states that one of the criteria on which development projects should be assessed is the **availability and suitability of privately owned land.** The developers in fact have an alternative site adjacent to the reserve and therefore do not need to locate their terminal and restaurant in the reserve.

Should the gondola be built, it will undoubtedly affect the reserve's special botanical features. Only 7.5 hectares in size and located at the head of the Heathcote Valley, the reserve was established in 1911.

Since 1947 it has been administered by the Christchurch City Council, but remains in Crown ownership.

Rising up to 455 metres above sea level, the reserve has steep, rocky north and west-facing bluffs. Some of the best examples of lava flows and pyroclastic debris sequences on the Port Hills can be seen on the west side.

Grassland, shrubland and rock outcrop vegetation occur in the reserve with over 50 herbaceous species present; a rich herbaceous flora for the Port Hills. Mt Cavendish was given the highest scientific rating of all the Port Hills scenic reserves during Geoff Kelly's survey of Canterbury scenic reserves. Because of its small size, the reserve is very vulnerable to disturbance. The silver tussock *(Poa cita)* grassland on the highest parts of the reserve is one of the best stands remaining on the Port Hills. Fescue tussock *(Festuca novaezelandiae)* is also present. However, it is on the rock bluffs that some of the botanically most interesting plants occur. The warm and dry north facing rocks of the reserve are the habitat of two rare ferns; *Pleurosorus rutifolius* and an undescribed species of *Pellaea*. Other "hot rock" ferns present include *Cheilanthes distans* and *C sieberi*. Other interesting plants present in the reserve include the Banks Peninsula endemics *Cotula minor, Hebe lavaudiana* and *Senecio saxifragoides*, together with *Acaena anserinifolia, Aciphylla subfabellata, Calystegia tuguriorum, Chenopodium allanii, Clematis afoliata, Convolvulus verecundus, Dichelachne crinita*, Dichondra repens, Echinopogon ovata, Geranium microphyllum, Gingidia enysii, Rhagodia triandra, Rubus squarrosus, Scandia geniculata, Sophora prostrata and Thelymitra sp.* + *(*,* grass. + orchid).

The effect of this development, if it is allowed to proceed, is twofold. Firstly, it will result in a loss of many of the important biological values of Mt Cavendish Scenic Reserve. Secondly, it will create a precedent for similar developments in other scenic reserves and protected natural areas which could be very difficult to control in the future. We therefore believe that it should not be allowed to take place.

David Norton and Colin Burrows are plant ecologists at the University of Canterbury.

Pleurosorus rutifolius *is a rare fern which chooses the driest, sunniest and most inhospitable outcrops for its home. It is found on the Mt Cavendish Reserve.* Photo: Dave Norton

Case 2. Eastern Petone Foreshore Reserve

by Maureen Burgess, Lower Hutt branch chairperson

The frustrating saga of the Eastern Petone Foreshore Reserve has dragged on for 10 years. After such a long period of constant effort, the Lower Hutt branch feels it has achieved nothing, thanks to inaction and neglect by the Petone Borough Council.

Two businesses which have been on the reserve and were meant to have vacated it on April 1, 1985, continue to operate on it in spite of our efforts to draw attention to the management plan. This states that the sites, once vacated, should be progressively developed for passive recreation.

In the latest defeat for the area, the Council has granted Town Planning approval for a helicopter landing site adjacent to the reserve, with the only approved flight path over the mudflat — the only remaining one in Wellington Harbour and one which our members have studied in order to document its value to birdlife.

It appears to us that our sole remaining hope to get the Management Plan implemented lies in asking the Department of Conservation to investigate the Petone Borough Council's management of the reserve. The land was vested in the Council but is a reserve subject to the Reserves Act 1977. We feel that the situation is such that DoC should remove control of the land and associated $600,000 budget from the Council.

NORTHERN BRANCH

ISLANDS · MANGROVES · KAURI

New Forest and Bird branches have sprung up all over the country in recent years. One such is the Northern branch, based in Whangarei. Their vice chairperson Alan Willis and committee member Gerry Brackenbury have written this article on the trials and tribulations of forming a branch and on the main issues in their region.

The Northern branch was originally set up in 1985 as a section on the recommendation of the mid-North branch, which helped to get the ball rolling with a $100 donation. However, in the initial stages lack of finance was a hurdle which was partly overcome by committee members generously donating their own funds to get the branch running.

We feel the branch has achieved much in our two short years of existence, and our enthusiasm remains high through thick and thin.

One of our initiatives has been the turning back of Limestone Island (Matakohe Island) from pasture to bush, thereby creating a valuable bush reserve close to the heart of Whangarei city. Initially we wanted the whole island to be replanted, but it was soon brought to our attention that the island had many other values — it is also rich in Maori and Pakeha history. A rare ringed ditch pa is clearly visible on the summit and the whole north-facing slope contained agriculture lines. At this point local Maori also became actively interested in the project.

Many meetings later — with the Historic Places Trust, Te Roopu kaumatua, Whangarei City Council, Northland Harbour Board, QE II National Trust and the Whangarei County Council — we feel that our ideas are gaining acceptance and it will not be long before Whangarei has one more jewel in its environmental crown.

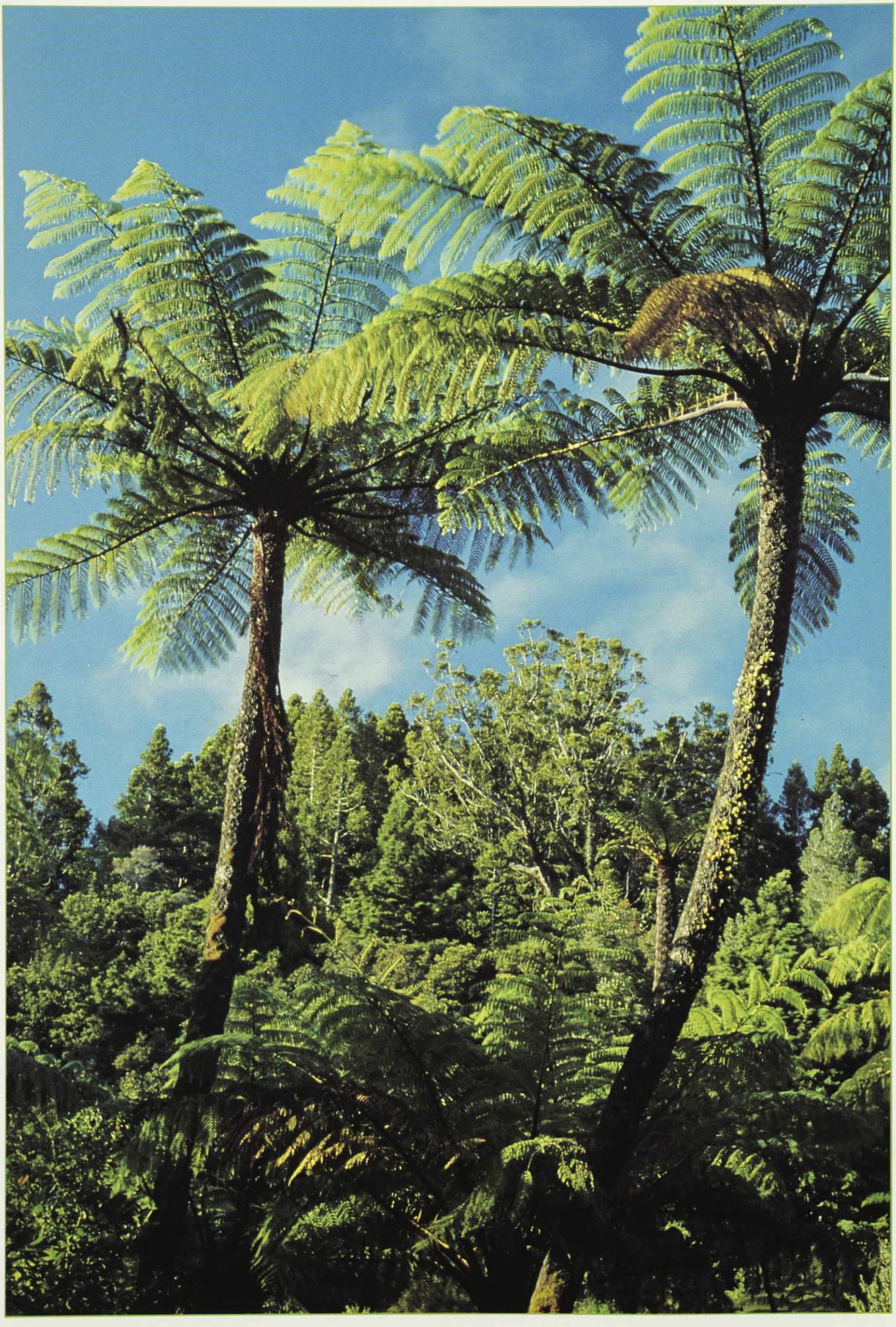
Another issue our branch has been getting its teeth into is an attempt to reintroduce bellbirds into Northland. This has been an exercise in frustration and bureaucracy. Gerry Brackenbury first wrote letters three years ago to various interested parties with mixed results. However, with the creation of the Conservation Department, there is now a stronger likelihood that Northland will once again be the home of this beautiful bird.

The two issues we have put most effort into recently are our attempts to save mangroves in Whangarei Harbour and to retain Punaruku kauri forest within the Conservation Department.

Mangroves

In the upper reaches of Whangarei Harbour stands a small residual example of mature mangrove trees that must have been there for a very long time. One of the largest measures 10 metres in height and just over one metre in diameter. Unfortunately over time fewer and fewer mangroves have remained here, as they have been used as convenient rubbish tips. Permission was obtained in the early 1970s to flatten and reclaim this vestigial area of 10 hectares. All that is standing is four hectares; the rest is parking space for trucks.

Above: *The gaunt skeletons of trees ringbarked by the Forest Service as part of the Kauri Management Programme, prior to 1982. Many of the trees so treated are towai.* Opposite: *Punaruku forest, with kauri rickers on a ridgetop and a large kauri in the middle distance, spared because it has been scarred by gumbleeding notches.* All photos: Terry Fitzgibbon



When will the tipping stop? Even though it is Whangarei Harbour Board policy to stop reclaiming mangroves, they continue to lease out the harbour bed for this reclamation, and so the vandalism continues.

Even though the tide of public opinion has switched against further mangrove destruction, and the Northland Harbour Board has accepted this, the fact still remains that permission was given to destroy these magnificent mature mangroves. We have been making every effort to stall the Harbour Board while at the same time looking for a legal loophole to prevent the mangroves from disappearing. At one stage I (Gerry Brackenbury) visited the area every day, and every day I saw a little more disappear.

Our branch even offered to lease the site from the Harbour Board and were quoted $3000, which was a far greater annual sum than we could afford. A "friend at court" who deserves the highest praise is Wally Redwood, a Whangarei City Councillor and member of the Northland Harbour Board. Wally has helped us and fought our cause in the boardroom and council chamber, often single handed.

At the time of writing the situation is precariously balanced. The Parliamentary Commissioner for the Environment is sympathetic but seemingly powerless, the City Council is not prepared to condone the reclamation (thanks to Wally Redwood) and the Conservation Department has been asked to take an active interest in the issue.

In the meantime the Harbour Board has now offered to reserve the four hectares, but wants to reclaim the river in front of the mangroves to accommodate a boat builder who is desperate for water access to his business. Further down the harbour are hundreds of businesses right next to the water, such as spray painters, panel beaters and carpet factories, none of them in the slightest bit bothered by the water lapping their feet and their businesses! We are convinced any reclamation of this unusual design will spell disaster for the mangroves in the long term.

Punaruku

On the eastern side of Northland between the Bay of Islands in the north and the small township of Hukerenui to the south lies Russell State Forest. This is the largest continuous piece of forest in the region, comprising nearly 10,000 ha, and at the southern end of this forest lies Punaruku.

Some forests have a way of bouncing back in spite of what people do to them, and Russell State Forest in general (with Punaruku in particular) is a case in point. The whole area has in the past been burned, logged, grazed, had broadleaf trees and tanekaha ringbarked throughout since the early 1950s, been replanted and is now naturally regenerating.

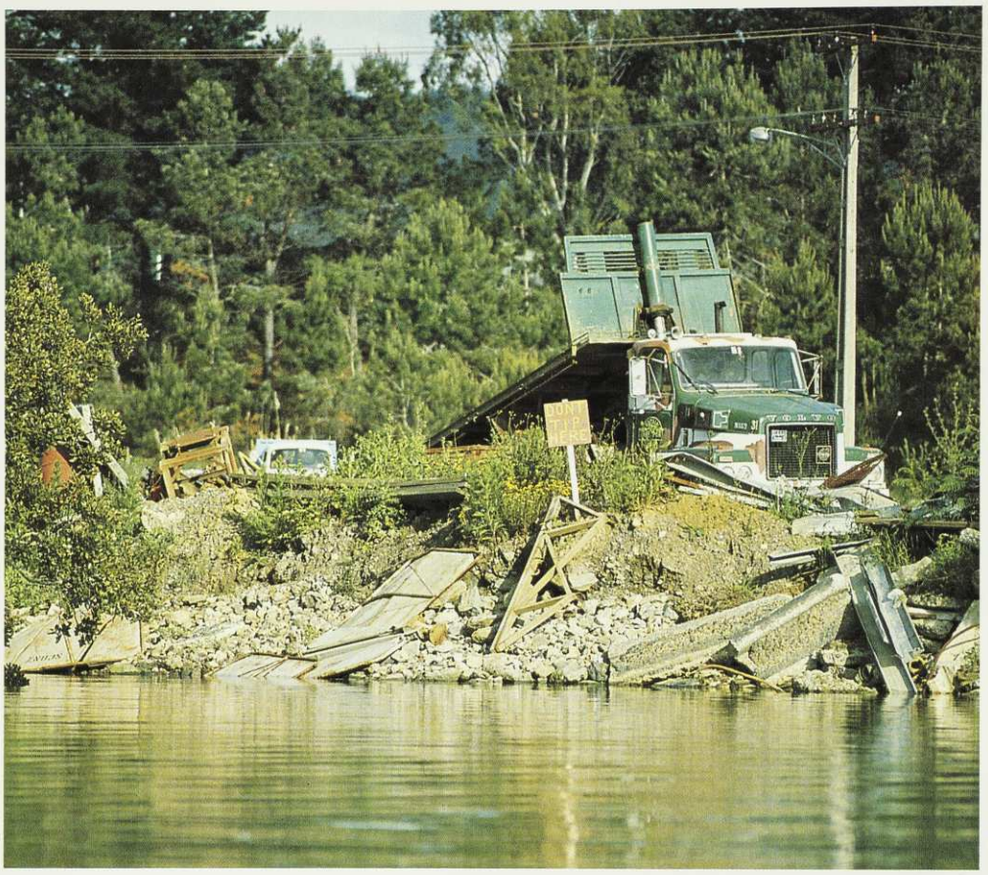
Pre-European Maori had a close relationship with the forest, using it as a food, timber and spiritual source. While most lived in the protective pa that dotted the coastline, the local tangata whenua also had pa sites in the forest. Punaruku has a number of pa sites, urupa and tapu areas, and contains the sacred giant kauri, Horiwehiwehi.

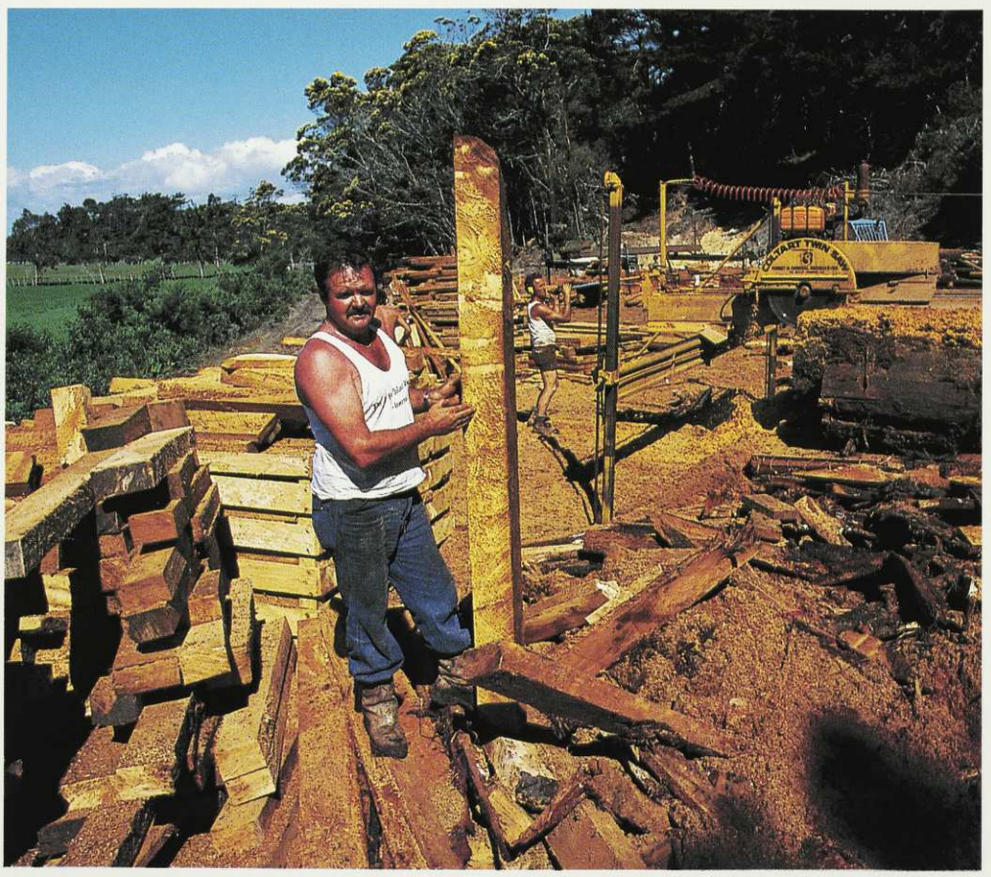
Punaruku is 3000 ha in extent and is the largest continuous sequence of regenerating kauri in the country. Because of this the area was designated under the "Kauri Forest Management Review," for kauri extraction up to 800 cubic metres a year. Initially all of Russell State Forest was earmarked for production, but conservationists on the Northland Park Advisory Committee several years ago reduced this to the Punaruku and Papakauri blocks. This was fortuitous, as local conservationists might now be fighting to save the whole of Russell forest, not just Punaruku.

Following the creation of the State Owned Enterprises, Punaruku was initially handed over to the Forestry Corporation because it was regarded as a "management area." Since then the block has been placed in the Lands Department; part of it is to be reviewed by the Waitangi Tribunal as a land claim has been lodged by the local Ngati Wai.

Besides the kauri, a number of reasons make Punaruku a special area. It has been classified as having high wildlife values by the Wildlife Service (Ogle 1982) and contains important habitat for a number of endangered birds such as kaka. Kokako were last seen in Punaruku in 1961, the endemic New Zealand falcon in 1979, and brown teal occupy the lower reaches of the Punaruku Stream, outside the forest. Other birds of note found here are the pied tit (not a common Northland bird), kiwi and native pigeon.

The vegetation is a mosaic, reflecting the bush fires at the turn of the century and before, past logging and "kauri management." The most mature forest is confined to the valley heads and steep gullies. Most of the ridge tops support stands of secondary pole kauri which has lost some of its associated podocarp and hardwood species through ringbarking — including Hall's totara, tawa, taraire, and kohekohe. Off the ridge tops hardwood/podocarp forest occurs. Kahikatea is abundant in the low lying areas and along stream beds. A hybrid tree, seemingly a cross between a northern rata and a pohutukawa, is recorded near Pukemoremore trig, although it is probably doomed thanks to possum browsing.





Top: *Another truckload poised to tip spoil.* Bottom: *Portable sawmills are chewing away at kauri remnants on private land as farmers cash in "alternative" crops. Logging controls are urgently needed so that some forest is left for long term use of kauri.* All photos: Terry Fitzgibbon

Nigel Clunie, DSIR botanist in Kaikohe, considers Punaruku to be "by far the largest and best stand of regenerating kauri in the country." It has been estimated that approximately 25 percent of regenerating kauri in Eastern Northland's public estate is found in the forest.

We cannot understand why a commercially-minded company like the Forestry Corporation wants to log Punaruku. The 100-year-old sapwood that will come from the forest is virtually unmarketable. Instead the Corporation would do better to save the 45,000 ha of kauri estate on private land. This would ensure that part of the private kauri estate could be managed on a sustained yield basis, leaving Punaruku and other public kauri forests to recover from the ravages of humans.

Rat eradication in Breaksea Sound

Wherever they reach, introduced rats spell disaster for native birds, lizards and invertebrates. The introduction of European species of rats to New Zealand was first recorded during Cook's 1773 visit to Fiordland. A major eradication programme currently under way on two important islands in Breaksea Sound will help, at least in part, to rectify this unfortunate legacy. In this article Bruce Thomas and Rowley Taylor, of DSIR Ecology Division, Nelson, document the events leading up to the ambitious project, and discuss its significance to conservation and where it could lead from here.

"You're dreaming!" — this was the typical reaction back in the late 1970s to our suggestion that the small (9ha) bushclad Hawea Island that we were passing could be cleared of its infestation of Norway rats — a dream that was later to become a reality. To the north appeared the magnificent sight of Breaksea Island (170ha) rising 300 rugged metres into the Fiordland mist; a scene epitomising this wild and beautiful corner of New Zealand. A nod towards it with the comment "we'll get rid of rats on that one too" invariably provoked the predictable retort "You must be joking — you're crazy." But we couldn't have been more serious.

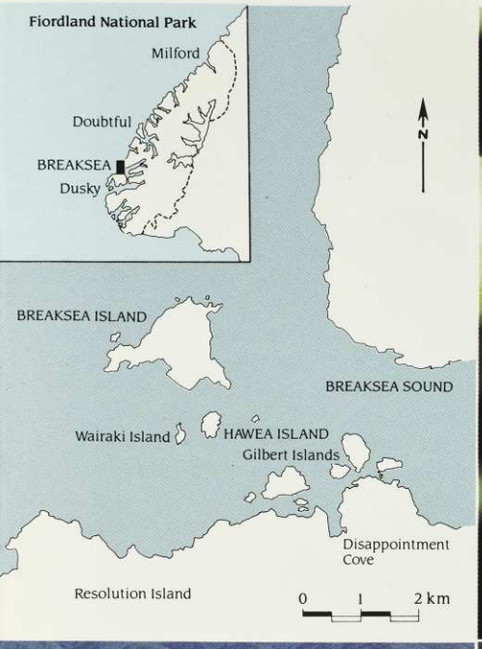
Today, with the success of Hawea Island behind us and preparations well under way to eliminate rats on Breaksea Island itself, we are quite confident that this major objective will be achieved.

Early Days

Our story really begins a millennium ago when, in legend, Tu-te-Rakiwhanoa took his great adze (with blade of ice!) and hacked out this rugged place. Tane, the god of the forest, clothed Fiordland's naked slopes to provide a home for a myriad of wonderful and varied creatures, but Tawhirimatea and Tangaroa in jealous rage battered its coasts with incredible fury. Many of Tane's children learned to survive, and even thrive, under these relentless attacks of wind and sea, but finally proved no match for what beset them with the introduction of rats and other exotic mammals.

People eventually made their way to this hostile environment, at first visiting only seasonally to gather a rich harvest of kaimoana, nesting seabirds, plump pigeons and parrots, and to collect the highly-treasured takiwai (Fiordland greenstone). Unfortunately, the Maori brought their dogs and rats — kuri and kiore — the first of the introduced mammals. Today Fiordland is one of the few mainland localities where kiore still persist.

These aliens were bad enough, but in May 1773 a new rodent scourge from Europe was introduced when Captain James Cook tied up his rat-infested ship, the *Resolution*, at Pickersgill Harbour in Dusky Sound. According to one of the expedition's naturalists, Anders Sparrman[1], "it is well known that rats readily swim ashore after a long sea voyage" but here "our rats (almost certainly Norway rats *Rattus norvegicus*) had the best chance to come ashore dryfoot by way of the bridge," from the ship to the bank. He further commented "it seems a terrible thing that the European visits to these parts should be the cause of spreading the disagreeable and noxious breed of rats", but he also pondered that perhaps the ship was benefitting the New Zealanders in giving them rats as food! Cook spent several days exploring Breaksea Sound and with his officers visited "the rocks which lay off the entrance to gather a supply of seals"[2]. It is conceivable that rats became established on Hawea and Breaksea Island at this time but it is more likely to have hap-



pened after 1792 during the intense period of sealing that began as a result of Cook's reports.

Richard Henry's arrival at Pigeon Island in Dusky Sound in 1894, with a brief from the Government to transfer the vulnerable ground-birds kakapo, kiwi and weka to the "safety" of the recently designated Resolution Island bird sanctuary, heralded a new period in western Fiordland's history. During the 1890s, Henry saw hordes of rats throughout the area and noted that species such as kokako, piopio and saddlebacks were declining. Sadly, his beloved birds were to be even harder hit with the arrival of stoats; kakapo, little spotted kiwi, bellbirds and robins rapidly disappeared, as did the rats. Being good swimmers, stoats quickly reached Resolution Island. Understandably very dispirited, with 15 lonely years of hard work doomed to failure, this notable early New Zealand conservationist left the solitude of Dusky Sound in 1908 to become one of the first custodians of Kapiti Island[3]. It is only in recent years that the work begun by Henry in Fiordland has been brought closer to fruition.

Biological Surveys

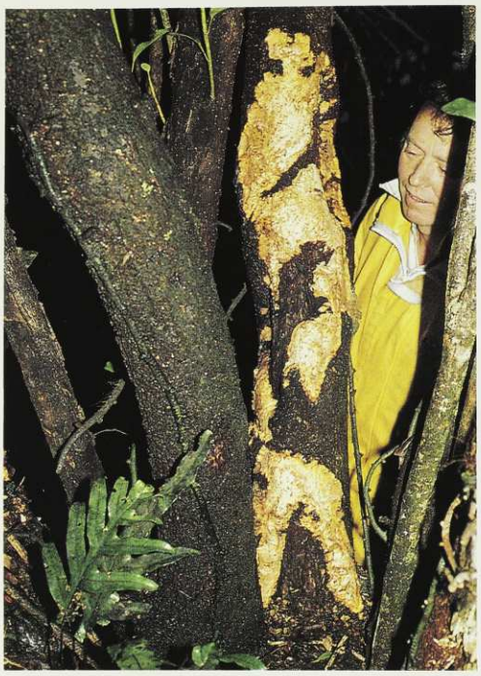
Much of Fiordland was reserved as a National Park in 1904, and attracted a steady stream of visitors, but the remoteness of the fiords meant that scientific studies there were few and generally confined to occasional, privately-arranged visits by enthusiasts. However, with the advent of the 16.4m Fiordland National Park research vessel *Renown*, a concerted effort to document coastal Fiordland's natural history began in 1974 when Park staff and the Ecology and Botany Divisions of DSIR embarked on a series of biological surveys in Doubtful, Breaksea and Dusky Sounds.

In the early 1970s, the search was on to find a suitable place to shift the last remnants of the once-thriving Fiordland kakapo population. Stoats had been found on all the larger islands in the Park, but they were not known from Breaksea Island. Reports of good numbers of robins there were encouraging, since they had virtually disappeared from western Fiordland, but during a brief preliminary inspection in 1974 Sir Charles Fleming found signs of rats on both Breaksea and Hawea Islands. The presence of Norway rats on Breaksea Island was easily confirmed when a survey team later that year saw them regularly, even by day, in most habitats. Trapped rats were completely cannibalised overnight, and one evening three were caught in a single snap-trap in ten minutes. Intermittent monitoring since

Opposite: *Breaksea Sound with Breaksea Island in the foreground, Hawea and Wairaki Islands tucked in behind, the Gilbert Islands clustered around Disappointment Cove and Entry Island beyond.* Photo: DoC.

Above: *Large weevils with bulbous noses suck sap from the* Anisotome *on Wairaki Island and sleek, black Fiordland skinks festoon the rocks. Potential disaster for these fascinating creatures has been avoided with the successful eradication of rats on neighbouring Hawea Island.* Photo: Bruce Thomas.

The seed crop was gathered for consumption by rats and the few that were missed were grazed as seedlings; but now that the rats have gone fallen fruits lie scattered about and seedlings carpet the forest floor on Hawea Island. Photo: Bruce Thomas.

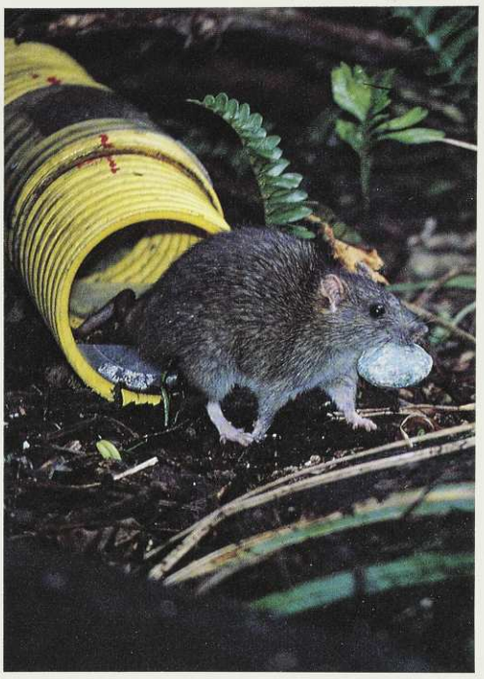


The rat populations on Breaksea Island are dense and their sign is everywhere. Rowley Taylor inspects bark biting. Photo: Bruce Thomas.

has shown large fluctuations in the size of the population. On one occasion, the only traces of rats were old burrows full of cobwebs, and sea shells many metres from the shoreline — but on later visits rats and their sign were commonplace.

Historical records show that during the last century Norway rats were widespread on many Fiordland islands, but that they disappeared almost completely after the arrival of stoats. Nowadays off the coast of southern New Zealand they are found only on islands that stoats have not reached. The original survey revealed very old rat sign on some other islands in Breaksea and Dusky Sounds, but rats were subsequently caught only on Breaksea and Hawea.

On the positive side, it was clear that rats had not reached nearby Wairaki Island, and that Breaksea, Hawea and Wairaki were among the very few islands in Fiordland that were outside the swimming range of stoats. None of the three islands showed sign of deer. The potential value of these islands if they could be made rat-free was obvious, and in spite of popular opinion that complete eradication was impossible, ideas



Poisoned pellets on Hawea Island were frequently carried off by Norway rats in less than a minute. Photo: Rowley Taylor.

Rodent Eradication From Islands — The Conservation Potential

by Dr David Towns, scientist with the Science and Research Directorate of the Department of Conservation.

With the introduction of an array of rodent, feline and mustelid predators to New Zealand over the last 150 years, the fauna of the main islands has taken a battering. So great is the extent of this destruction, Jared Diamond (1984) was recently moved to comment that New Zealand no longer has an avifauna, just the wreckage of one.

Predator-free offshore islands provide the only means of preserving some unique remnants of this fauna. They remain a last refuge not just for birds, but also many lizards, insects and even some plant species. The continuation of these outposts has not always been regarded as assured. As recently as 10 years ago, the slow creep of rodents through these remaining predator-free islands seemed inevitable. This view was reinforced by the irruption of ship rats on Big South Cape Island in 1964, followed by the extinction of two endemic forms of birdlife, and the invasion of Whenuakura Island by Norway rats in the early 1980s, causing the destruction of the tuatara population. In a workshop on the impacts of rodents on nature reserves in 1978, both Dr Ian Atkinson and the late Dr Kazimierz Wodzicki concluded that eradicating rodents from islands, however small, was an unrealistic goal.

Because of this previously well justified view, predator-free islands, especially those free of rodents, took on a dual role. In addition to their value as the least modified of New Zealand's ecosystems, they have acquired the guise of living arks — havens to which the inhabitants of other islands could be moved once their original homes had been invaded by rodents.

Recently our whole approach to this problem has undergone a revolution. New forms of safer, effective rat poisons, and some innovative methods of dispensing them, have meant that we can now change from constantly battling to save a diminishing resource to a phase of pre-emptive strikes. Choosing islands for their potential conservation value and removal of rats is feasible, and the first attempts are already under way.

While DSIR teams from Ecology Division have been developing their rodent eradication techniques on islands in the Marlborough Sounds and Fiordland, a second group, now in the Department of Conservation, has been developing methods for removal of Norway rats and kiore from islands in the Hauraki Gulf and Bay of Plenty.

Korapuki Island

The most recent of these has been on Korapuki Island, the first project designed specifically with endangered species conservation as the ultimate goal. Reaching this point has taken several years and covered four different groups of islands as techniques have been developed and refined.

The sequence really began in the late 1970s when Department of Conservation (DoC) science technician, Ian McFadden, became involved with Dr Phil Moors' programme for eradicating Norway rats from the Noises Islands in the inner Hauraki Gulf. When the need for bait dispensing silos became apparent, Ian tried a number of designs with kiore on Lady Alice Island, in the Hen and Chickens Group, prior to their use on the Noises. Further work on Lady Alice enabled Ian to test various forms of baits and attractants (McFadden 1984). As work concluded on the Noises, the focus shifted to Rurima Island, a small (6 ha) island inhabited by kiore, off Whale Island, in the Bay of Plenty. This is where the final phase of design was required — the selection of the most suitable rodenticide. After about 6 months of trials, all rat sign ceased on Rurima and no kiore have been seen for over three years.

The way was now open to design a rat extermination programme around the conservation needs of rare species. The one chosen was Whitaker's skink, a large (20 cm) lizard confined to two tiny offshore islands (the largest just 10 ha), and a small and highly vulnerable area at Pukerua Bay near Wellington. In 1986 the Hauraki Gulf Maritime Park Board accepted a proposal

Whitaker's skink (Cyclodina whitakeri) *photographed on Middle Island.* Photo: Ewen Cameron

by myself and Ian McFadden to eradicate kiore and rabbits from 18 ha Korapuki Island as a prelude to establishing a new population of Whitaker's skink, most of which would be transferred from Middle Island about 2 km away.

The eradication campaign began in early November 1986, when Ian McFadden and Derek Brown (the latter now DoC, Nelson/Marlborough Region) put in long days setting up bait silos, and filling them with unpoisoned grain as bait. After a rather tense wait of four days when little happened, it became obvious that the kiore were starting to find the grain very much to their taste. It was then time to switch to poisoned grain,

began to germinate. Novel methods of rodent eradication such as releasing male stoats on to islands were suggested, but could not be tried in situations like Breaksea Island where the robins in particular would be at risk. New and more effective poisons were becoming available, and by the early 1980s Wildlife Service, Ecology Division and Lands and Survey were beginning to succeed with rat poisoning campaigns on some small islands in the Hauraki Gulf and Marlborough Sounds. There was now a need for a more closely monitored programme to give information on the benefits and costs of rat eradication. Although we now had the ability to clean up small islands, could we manage a large one?

Hawea and Breaksea Islands seemed ideal to provide these answers but there was also much, much more to be gained. A mere 300m away from Hawea is Wairaki Island, the type-locality of Fiordland's endemic skink *Leiolopisma acrinasum*. These skinks are no longer found on Hawea or Breaksea Island, yet on sunny days Wairaki's rocks virtually ooze lizards as they emerge from the cracks to bask. This island gem is also home to at least two undescribed species of large weevils, known nowhere else. The long-term survival of this fascinating fauna could be assured by ridding the adjacent islands of rats. Compared with rat-free islands nearby, Hawea also has a reduced distribution and density of breeding seabirds, such as broadbilled prions and sooty shearwaters. The importance of restoring one small piece of coastal Fiordland to something of its former pristine state cannot be overemphasised.

Successful Eradication Programme

With a financial grant and logistic support from Fiordland National Park, preparation for the eradication of rats on Hawea Island began in October 1985. Tracks were established and experimental and control plots were set up on Hawea and nearby islands to monitor any changes in the populations of the land and breeding seabirds, invertebrates, intertidal fauna, and vegetation once rats were eliminated. Using the m.v. *Renown* as a comfortable base wasn't without its problems, and resulted in one broken wrist and several bad frights during the daily landing and pick-up operations in the all-too-frequent heavy seas.

In April 1986, two Talon (brodifacoum) poison baits were put in each of the 73 plastic drainage-pipe tunnels that had been placed on a 40m grid over the island. These tunnels were necessary to protect native birds from the poison, and were checked and replenished daily. By the third day all baits were being taken and rats were seen waiting at some of the tunnels for replacement baits. After the fourth day the take of bait declined and on the last day of the trip, 12 days after poisoning began, none was touched. On the next inspection, six weeks later, only two more baits had gone, and there has been no new sign of rats on Hawea Island since. Many changes, such as large numbers of seedlings and uneaten fruits littering the forest floor, are already noticeable. Obviously, this part of the programme has been a complete success.

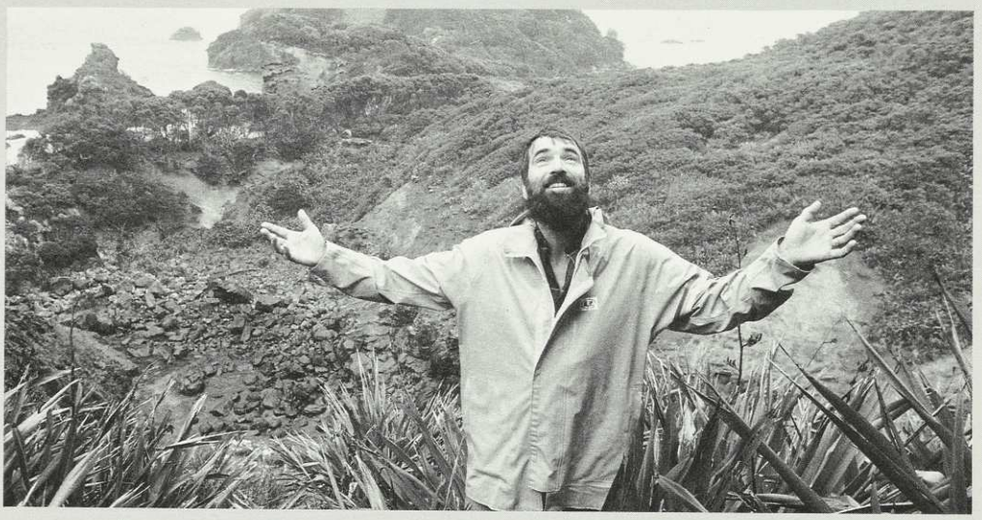
which the kiore clearly found no less attractive. When Ian, Derek, DoC technician Murray Douglas and I left Korapuki in mid-November, none of us suspected that our next trip to the island would be to New Zealand's newest rodent-free habitat. Korapuki has now been checked five times, but despite a range of baits, lures and traps, not one rat has been seen, nor evidence found of their presence. All going well, by early 1988 Whitaker's skinks may have their first opportunity to expand, rather than decrease, in number for 150 years or more.

The success of this and other eradication programmes lessens the pressure on rare species, and also provides an opportunity for a complete change in the way we look at those islands which are already free of rodents. They are no longer a diminishing resource, nor has their value as biological time capsules of ancient New Zealand decreased. If anything they have become even more biologically important. Because rodent extermination on islands up to 40 or 50 ha might be possible (or even larger, if Bruce Thomas and Rowley Taylor, of Ecology Division, DSIR, are successful), we have to be extremely careful how island conservation should proceed. It now becomes difficult to justify shifting any species to small islands which are naturally free of predators. Fortunately most such islands remain untouched, so their values as living laboratories demonstrating the effects of over 10,000 years of isolation are relatively intact. We now have the responsibility of ensuring that those same values are passed to other generations

Note of Caution

The queue of organisms proposed for rodent-free islands seems to grow without check, and includes such diverse groups as large flightless insects, lizards and threatened landsnails. Island rehabilitation can be designed around the requirements of each of these. In addition, new advances in population genetics can now help to define the right combination of individuals within each species which should establish new island populations. The time is now right for a note of caution. Our successes could, without careful thought, lead to some islands becoming little more than open zoos housing odd combinations of species which have never previously occurred in the region, or which have never been naturally associated with each other.

Our challenges are now in defining how island liberations should be approached so that subsequent generations will thank us for our forward thinking as well as our abilities as rodent eradicators. Who would have thought a few years ago that soon we would have the luxury of contemplating challenges like these?



Ian McFadden contemplating his handiwork on Korapuki Island. Photo: Yanse Martin- NZ Herald

Acknowledgements

My thanks to the Hauraki Gulf Maritime Park Board for providing challenges to meet, and to Drs Phil Moors and Richard Sadleir of the Department of Conservation for their comments on a draft of this article.

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Top: *Despite the rats, Breaksea Island has the only thriving robin population in western Fiordland. This can be attributed to the island's isolation and security from stoats.* Photo: Bruce Thomas.

Bottom: *Cook recorded large colonies of broadbilled prion breeding in Fiordland, but today there are only a few small colonies; the remnant group on Hawea Island will have a chance to expand now the rats have gone.* Photo: Bruce Thomas.

Breaksea Island The Next Step

After the Hawea Island experience it was much easier to make a commitment, with confidence, to a rat eradication programme on Breaksea Island, but logistically such an operation will be much harder. Breaksea Island is a comparatively huge chunk of land, covered with beech and podocarp forest, with thick coastal scrub along seaward cliffs, and it has several inaccessible cliff areas and inshore rock stacks. Undaunted, the DSIR and Fiordland National Park personnel involved felt the idea was far too important to abandon. It has been designated a National Park Centennial Project for Fiordland National Park — but with no special funding. Approaches for large-scale financial support have been made, and so far ICI (NZ) Ltd have made a major contribution by donating 500kg of Talon 50WB poison. As well, the Ministry of Works and Development provided a surplus building, and Southern Lakes Helicopters Ltd donated flying time to help transfer it to Breaksea Island. This has now been made into a fine base camp.

By far the greatest commitment has gone into the construction of a network of contour tracks to provide ready access to all parts of Breaksea Island. Unexpected help came early in 1987 when two teams of Operation Raleigh Venturers, young people from all over the world, spent several weeks under canvas in difficult conditions, marking and cutting the first of these tracks. Since then volunteers from all over New Zealand have been working alongside Park staff on the massive task, getting to and from the island with help from Fiordland Travel Ltd and Electricorp to cross Lake Manapouri, and then by m.v. *Renown*.

The Future

The tracks on Breaksea Island and the 1000 bait tunnels should be in place by the end of summer 1988. The poisoning will probably begin in May 1988 and should take about a month to complete. At the end of the initial campaign the tunnels will need to be kept baited with poison until at least the following winter, and regular checks made for rodent sign. This will be done in conjunction with the continuing programme to evaluate the conservation benefits of eliminating rats from Hawea Island. The progress of several pairs of robins recently transferred from Breaksea to Hawea Island will also need to be followed, and eventually Fiordland skinks and rare insects can be transferred to this now rat-free haven.

Similar possibilities exist for Breaksea Island once the rats are eliminated, but this project has other far more important implications. A recent 2-year poisoning campaign by Wildlife Service/DoC Eastern Region against rats and rabbits on similar-sized Whale Island has apparently been successful[4]. However, the method used there of broadcasting baits is not appropriate on Breaksea or other islands where sensitive fauna would be placed at risk. The comparatively safe, well-controlled eradication techniques being developed at Breaksea Sound are now helping in the preparation of contingency plans for important island Nature Reserves (such as The Snares) that are at risk from invasion by rodents. Perhaps the next major campaign against rats could be on Kapiti Island, where there is already an excellent system of tracks, used during the eradication of possums.

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Acknowledgements

We thank the many people who have assisted in this project but special mention must be made of the Fiordland National Park staff, and Ron Peacock in particular, without whom the Breaksea Island programme would never have got underway.

Dedication

Sir Charles Fleming, 1916 — 1987

This article is dedicated to the memory of Charles Fleming KBE, FRS, who took a keen interest in the Breaksea rat eradication programme. In a letter to BWT (September 1986) he wrote, "The prospect of progressive improvement of conditions by following up your success on "OG2" (Hawea Island) with a real attempt on Breaksea Island is stimulus for me to live another decade!"; but he died on 11 September 1987 before this was finally achieved. Undoubtedly a rangatira of New Zealand natural sciences, he has left a written legacy that will influence scientific thinking in this country for many generations to come. Haere ra te tohunga me o matauranga, haere, haere, haere.

Bruce Thomas has taken part in many biological surveys in western Fiordland since 1974, and is particularly interested in the ecology and conservation of New Zealand lizards — including the rare Fiordland skink. Rowley Taylor has long been concerned with the impact of introduced mammals on the New Zealand flora and fauna, and more recently has studied the dispersal of stoats and rodents to offshore islands and the practicalities of their eradication and control. Both authors have carried out field studies on a wide variety of native and introduced fauna throughout New Zealand, including offshore and outlying islands, and also in Antarctica. They derive great satisfaction from working at the interface of basic research and conservation management.

SPECIAL INTEREST TOURS FOR 1988

Join with our experts and other people like yourself to explore some of the unique and exciting areas of our natural world. Our tours all have a fascinating natural history focus and are especailly suited to the middle or older age group. Numbers are limited on all tours and early booking is essential.

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☐ **ALASKA ****
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with EWEN CAMERON
13 days July 4-17 Cost $1900
A repeat of last year's tour to this treasure trove in the South Pacific. Highlights will include time on the islands of Eua & Vava'u. Plenty of time to relax and enjoy the tropical climate.

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Tours marked ** are new for 1988.

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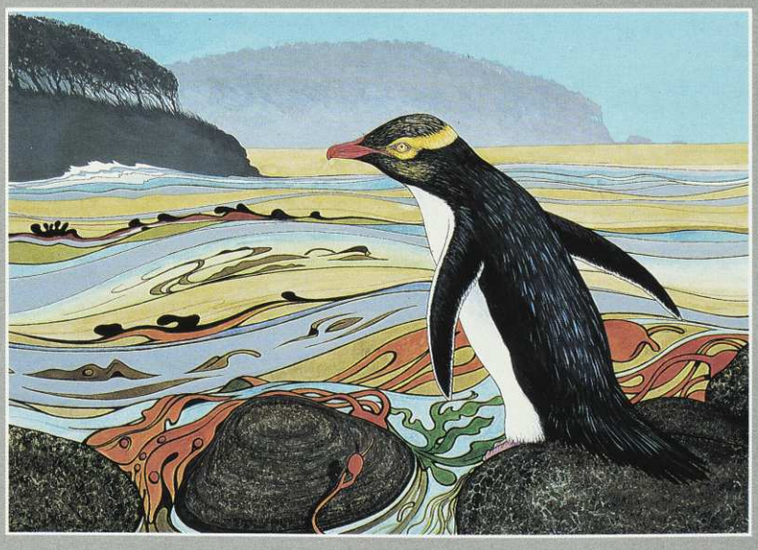
Hoiho – the World's Rarest Penguin

Limited Edition Art Prints

The Royal Forest and Bird Protection Society offers members the opportunity to purchase a limited edition high quality art print of the world's rarest penguin, hoiho or the yellow-eyed penguin. The artist is well known Southland painter and sculptor Merv Sarson. Funds from the sale of the print will go directly towards the fencing of the Society's reserve in the Catlins, Te Rere. This area is considered one of the best mainland breeding locations for the yellow-eyed.



Limited edition of 450, 610 x 420 mm, $50 (inc GST).

Yes, I would like to order ..... limited edition art print/s of hoiho to help the campaign to preserve the world's rarest penguin.

Name ..... Address .....

Send your cheque to RF & BPS Mail Order, PO Box 631, Wellington.

Queen Elizabeth II Scholarships 1987

The Society has granted a total of $4500 to six post-graduate students to help them with their expenses in researching conservation projects.

Mark Lieffering
is studying the relationship between soil and vegetation in South Westland, an especially topical subject with our World Heritage campaign.

R A Hitchmough
is researching the taxonomy of geckos.

Chris Lusk
is carrying out a study of podocarp forests.

Neil Wright
is making a comparison of different South Island robin habitats.

Alan Tennyson
is investigating ecological influences on petrel nesting.

Dale McDonald
is also carrying out a study of podocarp forests.

Easter Gatherings

Forest and Bird is organising an Easter Gathering at Haast this year. Show your support for World Heritage by visiting the region. Your stay will be at one of the most scenic motor camps in the country, with a beautiful lagoon close by. For further information, contact Kevin Smith, PO Box 57, Harihari, or phone Harihari 33-090.

The Joint Campaign Easter Gathering is to be held at Opotiki and will focus on conservation on private land, especially Maori. Field trips will visit Protected Natural Areas and there will be the usual list of interesting speakers. *For further information, contact NFAC, PO Box 756, Nelson or phone Nelson 83-336.*

Honeydew: a South Island Beech Forest Resource

Teachers who wish to follow up the excellent article on honeydew which appeared in our November 1987 magazine, can do so with the help of an excellent Teaching Guide, produced by the DSIR, Department of Conservation and the Nelson Teaching Resource Centre.

The Guide is accompanied by a video and is available for $46 (inc postage and packaging) from the Nelson Teaching Resource Centre, PO Box 444, Nelson.

High Country Landscapes

The author of the article on *High Country Landscapes: too much change, too fast* (November 1987), points out that the iron hut appearing in the centre of a tussock landscape should be seen as a cultural asset. It was incorrectly described as an intrusion.

International 20th Ornithological Congress

Christchurch is to host the 20th International Ornithological Congress during the week of December 2–9, 1990. This will be just the second time that the Congress has been held in the Southern Hemisphere.

The Congress theme is "World of Birds: a Southern Perspective", and its emblem is the yellow-eyed penguin. The Congress coincides with the 50th anniversary of New Zealand's Ornithological Society. Also taking place at the same time will be a conference of the International Council for Bird Preservation (ICBP), which will happen in Hamilton in the last week of November.

Any enquiries regarding these events, please write to the organiser, Dr Ben Bell, Zoology Department, Victoria University, Private Bag, Wellington.

SOCIETY'S LODGES AND HOUSES

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.

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

Okarito Beach NFAC Cottage

Sleeps 4-6 in basic but comfortable facilities, water, wood stove, 2 rooms. Sited in historic township, coastal and bush walks, Okarito lagoon, Westland National Park and glaciers. $3 per person per night. Bookings: Bill Minehan, Private Bag, Hokitika, Ph 734 Whataroa.

William Hartree Memorial Lodge, Hawke's Bay

The lodge is situated 48km from Napier on the Puketitiri Road and 8km 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 full 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, June Norther, 212 Kennedy Road, Napier, Telephone Napier 438 193.

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.

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

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.

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/o Mrs N. Fife, P.O. Box 67, Halfmoon Bay, Stewart Island.

Tai Haruru Lodge, Piha, West Auckland

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 line, 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.

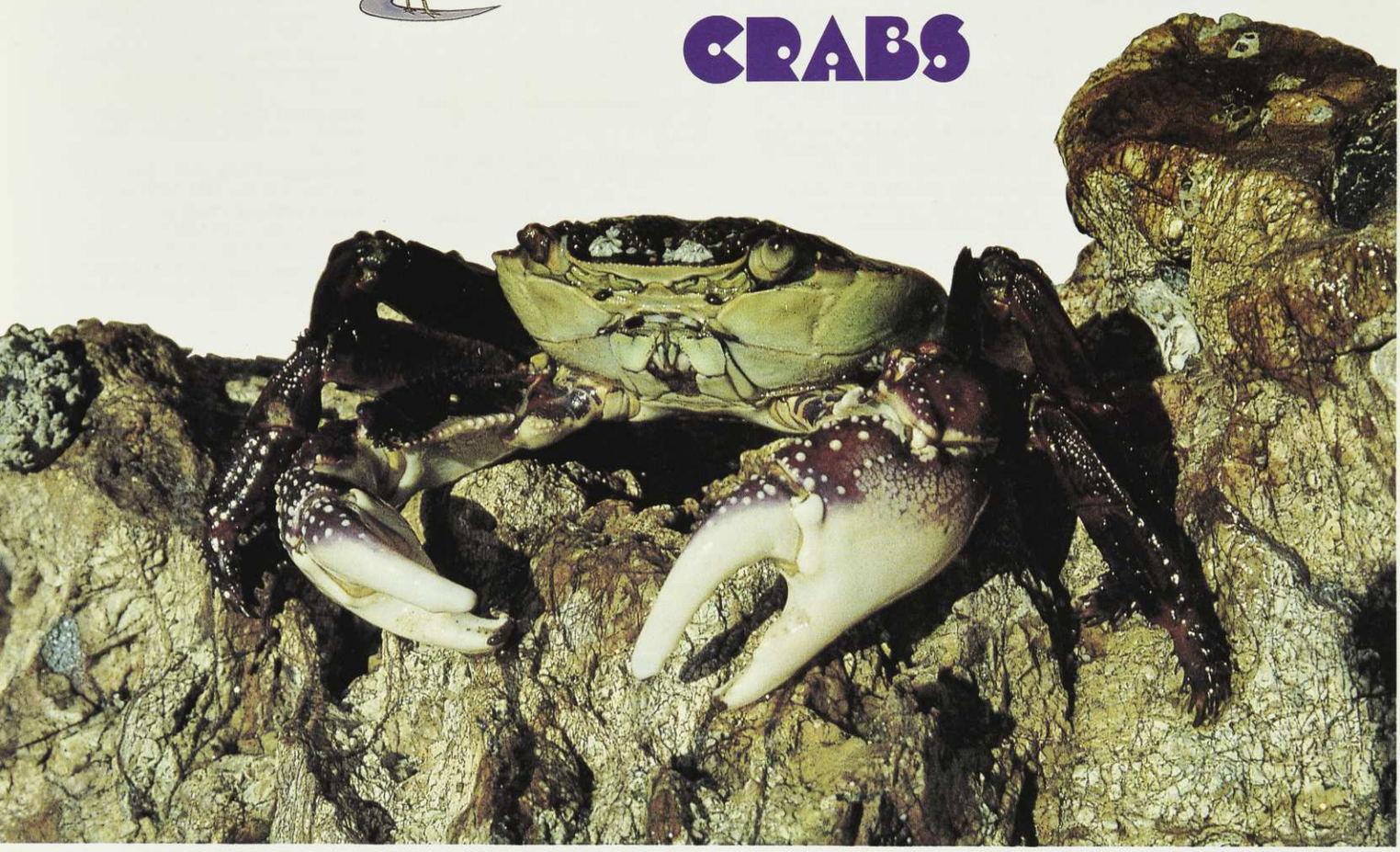
Waiheke Island Cottage, Onetangi, Waiheke Island

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.

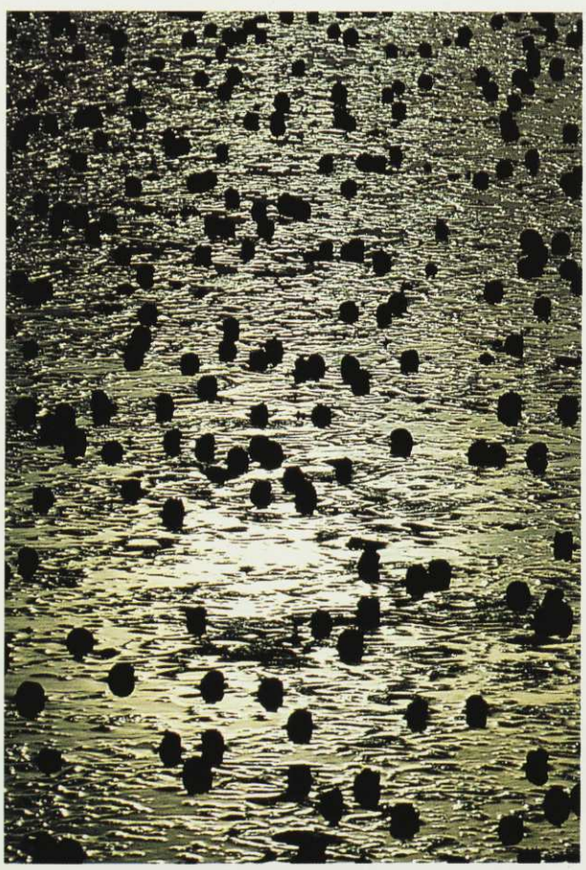
Different rates apply for winter and summer. For rates send an addressed envelope to the Booking Officer, Mrs R. Foley, 23 Stoddard Street, Mt Roskill, Auckland. Telephone Auckland 696-769 (evenings).

Tracks

IN DEFENCE OF CRABS



The purple rock crab frequently eats other purple rock crabs and climbs out of the sea at night to eat landsnails.



Beaches and rocky shores are wonderful places to visit or live near, but for some animals, like our native crabs, survival on the seacoast can be quite difficult. A crab's life is full of danger. Fish, seabirds, kingfishers and people all eat them.

Crabs protect themselves in lots of different ways. Their thick, heavy shell-like cover — called a carapace — works like a suit of armour and many use their strong pincer claws to frighten or attack their enemies. Anyone who has been nipped by one will tell you that a crab's pincers are very powerful for their size.

But not all crabs are fierce. Some such as the little native tunnelling mud crab dart quickly sideways into their holes at the slightest hint of danger. New Zealand's two other common mud crabs, the hairy-handed crab and the stalk-eyed crab, are also timid despite their ferocious sounding names. Both are quick to take advantage of the burrowing skills of their cousin, and often take over the tunnelling crab's hole.

When threatened some crabs such as the swimming crabs burrow backwards into the sand. They use their rear paddle-like legs as shovels to rapidly sink themselves into the sand, leaving only their eyes and feelers protruding.

Some crabs hide under stones, especially at low tide. If you carefully lift up damp rocks you can sometimes uncover the cancer crab which has a piecrust-edged carapace. Other crabs like the large shore crab creep into narrow rock crevices and are nearly impossible to dislodge.

Several small crabs, like the secretive hairy crab, will stop moving when disturbed.

This page sponsored by the J. R. McKenzie Trust.

Most crabs blend in fairly well with their surroundings. Some are even able to change the colour of their shells to match rocks or sand nearby. The clever hairy seaweed crab is well known for dressing up and attaching bits of seaweed to its shell as camouflage . . . but it often betrays itself by zig-zagging across the sandy sea floor — quite unlike a clump of growing seaweed!

Hermit crabs have one of the most unusual ways of protecting themselves from predators. They take refuge in empty sea-snail shells and only emerge if they feel safe. When frightened the hermit crab shoots back into its shell, using its main nipper as a front door. Like all crabs, a hermit moults or sheds its skin regularly as it grows. This is usually carried out inside its shell, but sooner or later, it becomes too big and needs to find a new home. When hermit crabs look around for a larger shell to move into they explore it carefully with their feelers and pincers, before deciding to move in. Hermit crabs occasionally use sea anemones for extra protection. The anemones with their stinging tentacles live on their shell homes. Even when the crab swaps shells the anemone usually goes with it, either moving itself or sometimes being stroked and coaxed by the crab.

Crabs have another very unusual way of avoiding capture. If one of their legs is caught by a bird or a fish they are able to shed the leg — just like a lizard sheds its tail. In time a complete new leg grows to replace the lost one.

Crabs of course have to breathe and use a pair of gills to extract oxygen from water. If their gills are full of seawater they can survive for quite long periods out of the sea and sometimes use this water-holding ability to "blow bubbles" when disturbed.

Crab eggs hatch into tiny larvae and gradually change by moulting into small versions of a mature crab. They are very vulnerable when small, especially at the moulting stages and very few of the many thousands of eggs or larvae survive to become adult crabs.

New Zealand's 'Giant Crab' is enormous and may reach a width of 20cm across the back, and its clawed arms are known to grow up to 40cm. Yet this so-called giant is a mere dwarf when compared to the massive Japanese spider crab which has legs that can spread up to 3.5 metres!

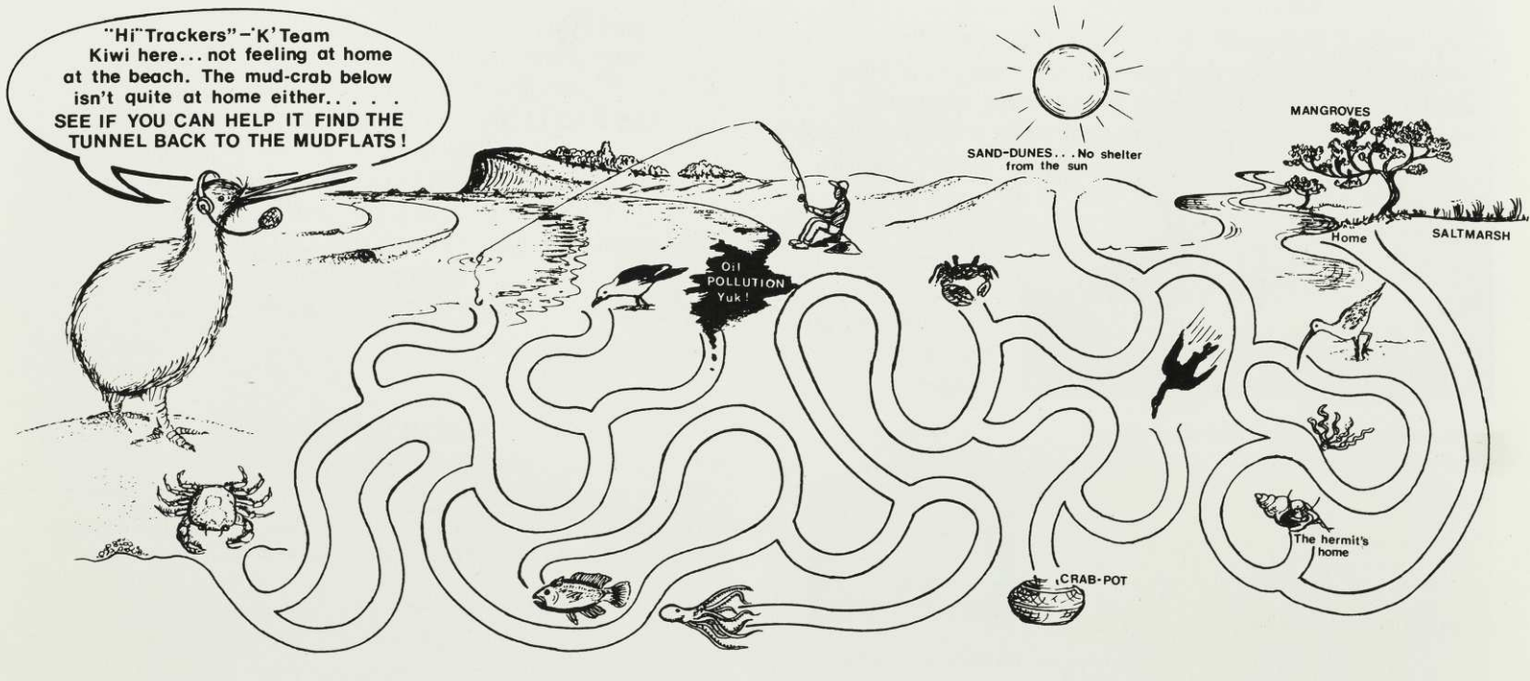
CRAB TIPS

1. If you want to look closely at a crab without damaging it or yourself — pick it up carefully across the carapace using your thumb and forefinger. Most crabs are easy to hold in this way except for the red rock crab, which forces its powerful legs against its carapace to hinder your grip.
2. A good way to attract crabs is to drop a crushed shellfish into a tidal pool.
3. If you scout along the high tide margin of a beach you may be able to find an entire moulted skin of a crab. You may only find a carapace which will keep for a long time if not exposed to sunlight or if filled with plaster-of-paris.

CRAB QUIZ!

1. Crabs belong to a group of animals known as Crustaceans. Can you name two other animals which belong to this group?
2. Which usually has the bigger nippers — the male or female crab? Which has the widest abdomen — the male or female crab? Can you find out why?
3. In some tropical countries crabs have adapted even to live in trees. Do you know the name of our special native crab which lives in freshwater?
4. How do crabs clean up the coastline of decaying organic matter?
5. To make a crab move is it best to shout at it or wave your hands at it?
6. What is the name of a person who studies crabs?

Send your answers to Crab Quiz,
PO Box 7115, Whangarei. The prize for the first correct entry is a book about Little Barrier Island.



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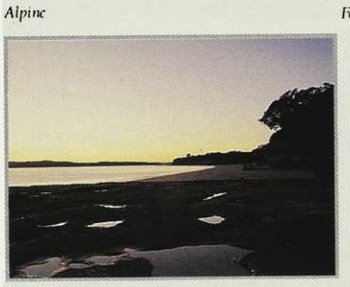

Maritime

Tussock

As part of New Zealand's celebration of the Centennial of National Parks, Forest and Bird has produced five high quality posters, each exploring a natural theme – alpine, wetland, forest, tussock and maritime.

Produced on high quality paper, these magnificent posters will be sought-after momentos of the Centennial. The dramatic Snowball Glacier in Mt Aspiring National Park, the bronze tints of a wetland in front of Mt Cook, golden tussocks in Tongariro National Park, a northern rata in dense forest of Urewera National Park and an evocative sunset mirrored in rock pools, Motuihe Island, Hauraki Gulf Maritime Park – each poster depicts the diversity of our natural heritage.

Buy a set or buy them singly. Forest and Bird will deliver your posters in a strong cardboard cylinder to ensure they remain in good condition in the mail.

Only $17 a set (inc GST and postage and packaging) or $6 each (inc GST and postage and packaging).

See order form below.

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Send cheque or postal order (payable to RF & BPS) to: RF & BPS Mail Order, PO Box 631, Wellington

What the Children Saw in Mrs Peace's Garden

Margaret Peace is well known to many Forest and Bird members as an executive councillor and a lifelong conservation advocate. Her Blenheim home is a haven for many native and introduced birds, as a group of young children discovered last spring. After the visit the children related their impressions to their teacher who transcribed them.

Five-year-old Jacob's delighted reaction: "I saw blue eggs in the nest!"

On Wednesday we walked to Pollard Park to see the ducks and then went on to the Taylor River. We strolled along the bank to the end of Monro St. where we were picked up and driven back to school.

On Thursday we went to Mrs Peace's property at Tuamarina. She loves birds and has made a beautiful garden with plenty of food and shelter for them.

Ducklings *Judith*

We saw some little ducklings on the river. There were seven of them. Four of them went away and thought their mum was with them. Mum went with the others the other way.

Swallows *Lance*

Yesterday we all went for a walk to look for birds. We sat quietly by the bridge and watched some swallows flying behind us near the power lines.

Thrush *Matthew*

I saw a bird's nest in the tree. It was round and made of dead grass with mud inside. It had four eggs. They were blue with black spots.

Bantam Hen *Kristen*

At Mrs Peace's I saw a little brown hen sitting on a nest made of dead grass. I could see four white eggs. We heard the hen squawking so we looked again and there were five eggs.

Goldfinch *Bronwyn*

On the grass at Mrs Peace's I saw a goldfinch. It was brown with some black, white and yellow feathers. Its head was red, white and black.

The Garden Guru with young disciples, explaining how birds make nests.

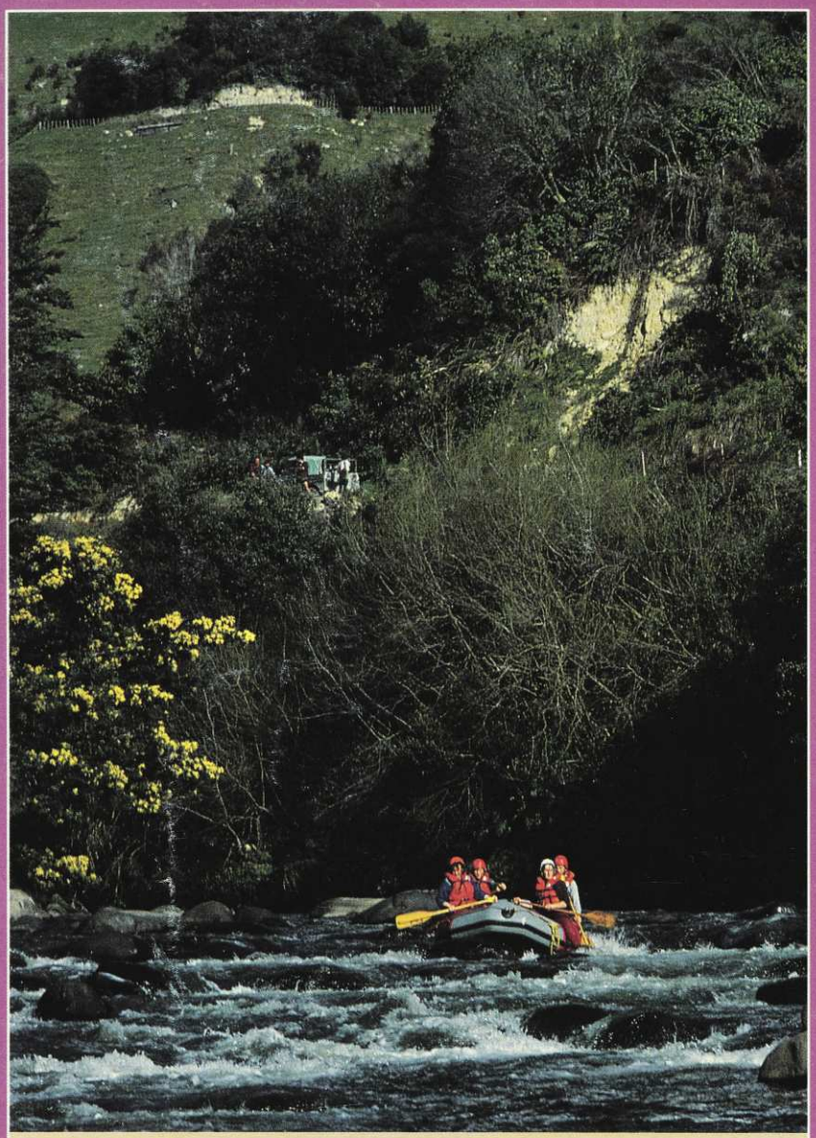
Baby thrush *Sarah*

When I climbed up the bank I saw a thrush's nest in the tree with fluffy babies in it. One of them had an orange beak and opened its mouth up. Its mum was out getting some worms.

Birds' Nests *Sara*

Mrs Peace had a lovely garden full of big trees. When we got there, she showed us some old nests, she had cut the branches with the nests still in them so that we could see them easily. There was a *thrush's* nest – big with rotten wood inside, a *gold-finch* nest – small and tidy made of moss, leaves, grass, roots and lined with horse hair and wool, a *fantail's* nest – small and round, made of moss and straw – hanging down in a tail at the bottom and a *silvereye's* nest made of grass and leaves and very thin so that you could see the eggs in the bottom.

Pigeons visit the garden all winter until October when they fly to a remnant of native bush about 15 km away for the nesting season.



The recent decision by the Court of Appeal supporting a conservation order for Canterbury's Rakaia River is a landmark for conservation. Two years ago the Planning Tribunal supported a conservation order for the river, but Federated Farmers then won a High Court ruling which stated that the purpose of conservation orders was not to overemphasise conservation at the expense of other water uses. Because of this latter decision, wild and scenic river legislation stalled, creating a backlog of pending conservation orders on rivers such as the Rangitikei, Wairau, Grey, Buller, Ahuriri and Mataura, as well as Lakes Ellesmere and Wairarapa.

The Acclimatisation Societies challenged the High Court ruling in the highest court of the land and won. The threatened wrybill (perhaps only 5000 birds remain), terns, and recreationists will benefit from this decision and other conservation orders should follow soon. The photo shows rafters enjoying a roller coaster ride down the Manganui-a-te-Ao, one of the few undeveloped rivers coming off the central volcanic region. It is also in line for a conservation order.

Photo: Graeme Loh.