Volume 18 Number 2
May 1987

Forest & Bird

The spectacular scree buttercup *Ranunculus haastii* from the eastern South Island has a large leaved variety, *pilifera*, which is virtually restricted to Southland's Eyre Mountains. *Photo: Brent Fagan, Otago University.* Inset: Another Ranunculus species with a flower depressed into the subsoil screes on which it is found, is still scientifically undescribed and is confined to three small valleys in the Central Eyre Mountains. *Photo: Alan Mark* The special plants and animals of this mountain range and the opportunity for a large Eyre Mountain reserve are described on pages 11 & 12.

Front Cover: 1983 native forest burnoff and pukatea stump, Mamaku Plateau near Rotorua *Photo: Gerry McSweeney*

Vast mushroom clouds of smoke again shrouded the Bay of Plenty, Northland and East Cape this autumn as clearance, burning and replacement by pines of privately-owned native forests continued. The Government has just approved the export this year of up to 100,000 cubic metres of beech logs by Blenheim-based company Taiswiss. The Nelson chipmill half-owned by the tourism-centred Newmans group continues to devastate Nelson's beech forests, while the Awarua chipmill near Invercargill is wiping out kamahi and beech forests throughout Southland.

Government 1984 election promises of a raft of incentives and controls to protect bush on private land have not been fulfilled. These included amending the Town and Country Planning Act to oblige local authorities to protect native forest. Financial incentives were also suggested but Maori land bush protection schemes such as Nga Whenua Rahui have stalled and seem unlikely to be given high priority or adequate funds by the Conservation Department and Government.

Our Society's June 1987 fundraising appeal focuses on environmental education (see article on page 2). Unless we can increase environmental awareness now our children will inherit a tattered nature heritage.

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Forest & Bird

C·O·N·T·E·N·T·S

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A legacy for our children

I have been involved in formal and informal conservation education most of my life, first as a student and later as a teacher. Over the years I have had my eyes opened to the extraordinary natural world in which we live, and in turn I have attempted to pass on the sense of respect I feel for things natural to generations of students. They have come on a range of field trips, experienced all sorts of weather and at the end of the day are never the same as they were before. They in turn have become teachers, conservation campaigners, civil servants. As we move through the 1980s, it gives me great heart to see the concept of nature conservation blossoming.

However, it can be too easy to be complacent and to think that what is protected now is secure for ever — forgetting that our national parks and reserves will need champions in the future if they are to survive the constant assaults of a consumer society. One need only look at the increasing urbanisation of New Zealand in the last 20 years to see that there is a major challenge to make people aware of the environment away from the cities.

Conservation New Zealand has performed a valuable service, but more of its type of work needs to be done. In our schools, too often general subjects such as nature study are sacrificed for narrow vocational training.

This then is the challenge to the Society as we introduce our *special conservation education appeal*. In this issue, our Society's Deputy President, Gordon Ell, discusses the reasons why we ought to focus on conservation education. Next month you will receive our annual appeal seeking funds for conservation education by our Society. I hope you can respond with your usual generosity.

You will no doubt agree it is vital that we provide a legacy for our children to be proud of. Nowhere is the need for this more immediate than in New Zealand's South-West. I first visited the region in my student days via the dusty roads of central Otago and Arthurs Pass. Later I made scientific trips to the Hollyford Valley, Secretary Island and Lakes Hankinson-Thompson in Fiordland National Park. I also made vegetation surveys of Mt Aspiring National Park and the Haast lowlands. In the 1960s I conducted ecological surveys of the Lakes Manapouri and Te Anau shorelines and later was involved with the Save Manapouri campaign.

Today I continue that association as Chairman of the Lakes' Guardians with the pleasure of seeing the research findings applied to the management of these important lakes. I was honoured to be with David Bellamy when he described Waitutu forest as one of the ecological wonders of the world.

Soon after you receive this magazine the Government could decide on the future of the south western forests. Kevin Smith's article in this issue shows us the extraordinary legacies of our Gondwanaland past — the great kahikatea forests, now virtually confined to this region, deserve our protection. Many of you have special forests in your own regions you are fighting for. On a nationwide scale, however, no challenge will be greater than the fight to protect our largest remaining unspoilt, natural area, the South-West. I urge you to give this campaign your full support.

Dr Alan Mark, President

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Young Conservationists

by Gordon Ell

There is a popular image of Forest and Bird as middle-aged and middle class, secure in its Royal title and comfortably engaged in a mildly-eccentric concern for "our twigs and tweets." The real image is more appreciated in the power lobbies of Parliament and business where the face of Forest and Bird is clearly seen as a well-briefed and determined advocate for the natural environment.

Yet the image of silver hair persists among our active committee people (most middle-aged plus ourselves) and many are seriously concerned about where the next generation of conservationists will spring from. This is the impetus for the Society's growing interest in "youth activities." Without more younger members, it is argued, conservation will lose some of its edge.

A conservationist of the future? Fears have been expressed that insufficient young people are joining conservationist groups like Forest and Bird and that the Society should actively secure more young members. *Photo: G Hutching*

Young parents are often too hard pressed by family and work commitments to devote time to conservation. Later, however, they come into their own when they become the "powerhouse" behind the conservation lobby. *Photo: A Bryant*

That particular generalisation is unfair. Older people form the powerhouse behind most New Zealand lobbies. They usually have more time and better means to give to public service: often their longer view of change provides the very spur to taking action. Concern that there are "not enough younger people coming on" is, however, common in many of New Zealand's clubs and societies. The fact is younger people are frequently under pressure to do other things.

Friends of the future

Forest and Bird is not alone in wanting to secure its next generation of activists. The more immediate point though is to win more interest in preserving the environment. Young people are the obvious friends of the future for tomorrow they will be the trustees of what is left. Forest and Bird wants to secure their interest now.

To do this the Society has been debating a campaign to secure and extend its younger members. There has been considerable support for the appointment of an education officer. Branch councillors contributed a raft of ideas at a recent meeting in Napier, showing how many branches have involved the interests of younger people. Gathering together the successes from many branches, and learning the lessons from some failures, it seems the Society already has a broad pool of experience with special youth groups. Instead of re-inventing the wheel, the Society may well turn the experiences to advantage in developing a national approach to broadening its membership among the young.

The matter is more critical now than a generation ago. Then most of us were but a generation or so "off the farm". In a rural country most people had some direct experience of the outdoors and how it responds to bushfire and clearance. Now New Zealand has become a much more urban country. With such distancing from the environment how will people learn to care, let alone respect it? This is a challenge for Forest and Bird. We need an electorate of people who care for conservation, for increasingly the arguments over the natural environment are decided by politics — not

– an investment in the future

the party kind so much as the making of choices between different interest groups. With more frequency questions are asked about the costs of preservation, employment, and who will pay. Politicians can only go so far as electors will let them go. So having voters who care about conservation can be critical. If conservation wants voter sympathy then it needs to get its message across to everyone.

As New Zealand becomes an urban nation that job of education gets bigger. Tomorrow's voter may well be a "townie" with no first-hand experience of nature or the conservation ethic. Offering that urban young person an appreciation of the outdoors is already recognised as a challenge for many branches.

Keeping concerns alive

Securing interest and support for conservation, particularly among younger people, may well have a critical effect on how New Zealanders regard their country in the future. Getting more young members is not about replacing the older activists. It is more a matter of keeping their concerns alive. Because of this the Society has decided to spend considerable energy on helping young New Zealanders to experience their natural heritage. Hopefully, then, they will want to preserve it.

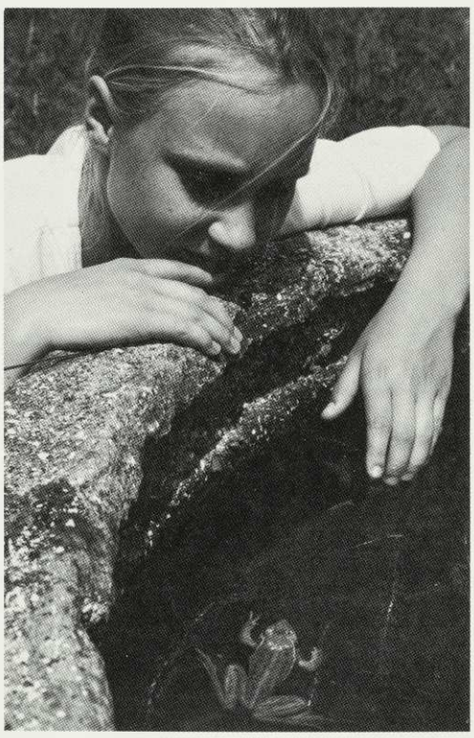
The methods suggested vary: nearly all have great merit and we shall have to choose carefully.

Many argue for a junior conservation movement in schools but there are problems there with an already overloaded curriculum and the integration of volunteers with teaching staff. Nevertheless it is obvious that where teachers are also active members of our Society many children have shown an early concern for nature which will stay with them a lifetime. From some such schools have come excellent community schemes in conservation.

Involvement of high school-age children and tertiary students identifies another problem in youth work. There is not just one group of young people to talk with. Interest levels and physical capability vary greatly with age. Some branches report success with adventure groups. Their experiences need recording to help others work in this way.

Modern high school curricula often give teenage children an understanding of scientific processes far in excess of their elders. Talking down to them through "pixie pages" in the journal is no longer appropriate. Yet understandably they rarely share the interests of a busload of older members on a field trip. In an increasingly competitive world they are pressed by examinations and the whole business of learning about themselves and life. The teenage years may indeed be the latent years for conservationists. Yet they are so closely followed by work and family commitments.

Several branches report a failure to encourage young family membership while having great success with the sponsorship of junior naturalist movements. Here parents of younger children can meet at times and in ways which suit their busy timetables and conflicting responsibilities. By the simple expedient of using the family car they can afford to make field trips which would be prohibitive if everyone were to pay their fare on a Forest and Bird bus. Later, as family pressures ease, many become the younger and active members of Society branches.



A generation ago many New Zealanders lived closer to nature in rural areas than they do today. The challenge facing Forest and Bird in the future is to make the young appreciate environments far removed from their homes.
Photo: Gordon Ell

Worth exploring

How branches promote and support such groups is worth exploring. How to adjust our own branch activities to cater for these different needs is another concern. Increasingly branches are generating activities for different age groups and interests: mid week trips for senior citizens for example may allow more active trips for younger members at weekends. In this way more people get satisfaction from their membership.

Unfortunately this also generates twice the work for the usually overcommitted branch committee. When this militates against their work for conservation, (those time-demanding lobbies and appearances before committees), the environment suffers. Forest and Bird needs to know the simple "tricks" which help to run such social programmes so they do not get in the road of conservation activities.

Yet without these educational activities the conservation work would weaken. People appreciate the social aspects of Forest and Bird: it also helps maintain their support and generosity for the continual stream of conservation causes. A first concern for our youth activities/education person will be to gether in the broad experience of branches and make their successful methods available to all.

Then there should be support for the new surge of activities: practical on the ground leadership to help branches, and more subtle forms of support, for example with the manufacture of resources for use with younger people and integrating such production with the activities of other youth-orientated concerns. There needs to be a slice of environmental concern in the outdoor education programmes which, increasingly for city children, may well be their first contact with natural New Zealand. There is a great resource among our retired members interested in sharing their experiences with younger members if the raw materials, such as slide sets and posters, were readily available. Forest and Bird needs to take a constructive interest in proposals for a conservation corps and other schemes which involve young people in the outdoors.

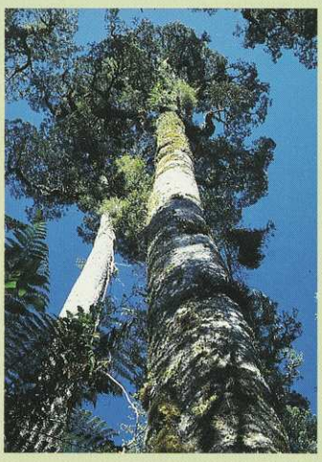
So far we have recognised an area of real concern: ensuring that there will be enough people sufficiently interested to fight for the environment tomorrow. The forthcoming appeal for youth work should provide some mechanism to build on the rich variety of approaches already taken by many branches. Given a professional direction, it is hoped that our educational thrust will effectively support our team of environmental workers.

Gordon Ell is National Deputy President of the Society and Chairman of its North Shore branch. Copies of his discussion paper Junior Activities were circulated to councillors last August. Further copies are available from Head Office to help branches make their suggestions in support of the national campaign for youth activities and education.

KAHIKATEA

The Feathers of Tawhaitari

by Kevin Smith
Society — West Coast
Convervation Officer



Kahikatea! What a suitably grand name for this noble tree, a true rangatira of Tane's forest world. It reaches heights of over 60 metres, it is New Zealand's tallest tree and lives for five or more centuries.

The sheer magnificence of kahikatea forest holds one in awe. Lofty, grey columnar trunks often heavily buttressed at the base, support sparse feathery foliage which typically forms an open canopy high above a thick low undergrowth. This sight has inspired many graphic descriptions particularly from the early explorers who knew these now sadly depleted forests much better than we do.

Pioneer botanist, Leonard Cockayne (1910) vividly portrayed kahikatea swamp forests as being composed of *"multitudes of long straight trunks like the masts of ships rising from the swampy grounds."* Though perhaps the best description came from Thomas Kirk in his famous treatise 'The Forest Flora of New Zealand' (1889):

Nowhere in the world do forests as ancient as New Zealand's kahikatea forests occur. Dating back to the age of the dinosaurs, kahikatea are sometimes referred to as "floating forests" because they grow in deep peaty ooze or even over flowing water. Only 2 percent of this forest type remains, virtually all in South Westland. *Photo: Craig Potton*

'By quiet lagoons the swamp forest floats as on a raft and birds come to rest in safety.' (Our Forests Ourselves, Peter Hooper).

'A virgin kahikatea forest affords one of the most striking sights in New Zealand forest scenery. Straight unbranched trunks rise one after the other in endless series . . .; The naked symmetrical shafts tapering almost imperceptibly, appear to form dense walls which completely shut out every glimpse of the outer world.'

Only 2% of the original forest remains

Few New Zealanders alive today would recognise this scene for it is kahikatea forest itself which has been shut out from most of the country. Only on the narrow coastal plains of South Westland do mature kahikatea forests still survive. Most of these remnant forests, which amount to no more than 2 percent of the original extent of kahikatea forest, are unprotected. South Westland's remote setting and surrounding physical barriers have so far largely protected these forests from exploitation. Timber millers, who know the tree somewhat derisively as white pine, are now seeking to log these forests as they rapidly exhaust available supplies of indigenous timber to the north.

Fortunately, kahikatea forest has a determined ally in the forest conservation movement. Conservationists are seeking permanent legal protection for all the kahikatea forests of South Westland. They want them included along with the other publicly-owned natural lands of South Westland in the South-West New Zealand World Heritage area. This is the major forest campaign of 1987 when the Government will decide the future of these forests.

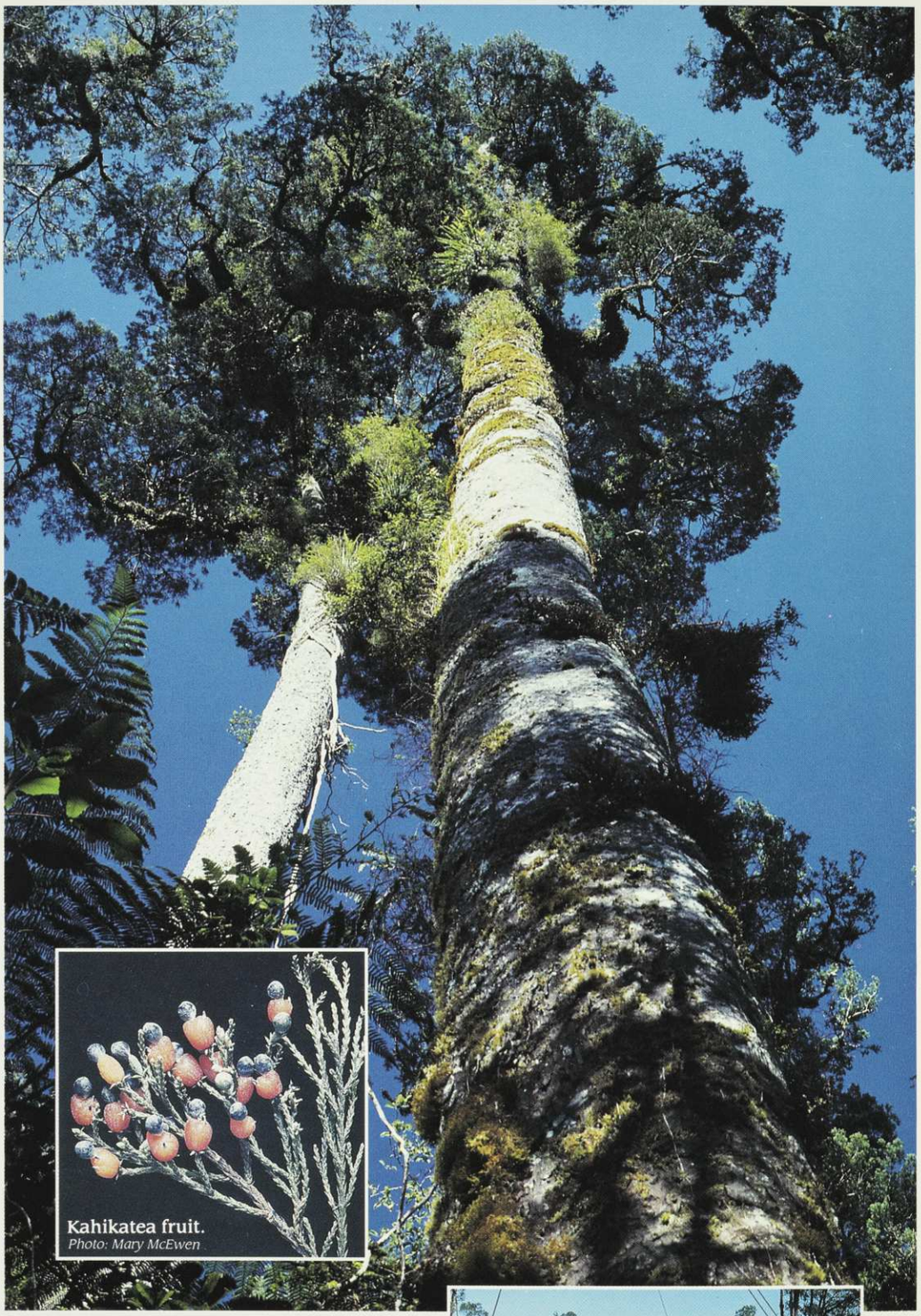
Food basket of the forest.

Kahikatea forest is at its best in the autumn. Female trees may bear an extraordinary abundance of lush purple and orange coloured fruit. In a good season, a fruiting kahikatea – called "mapua" by the Maori – can produce up to 800kg of fruit containing about 4,500,000 seeds. Fruit-eating birds such as pigeon, tui, bellbird and parakeet flock into the forests whose seeds are widely dispersed in their droppings.

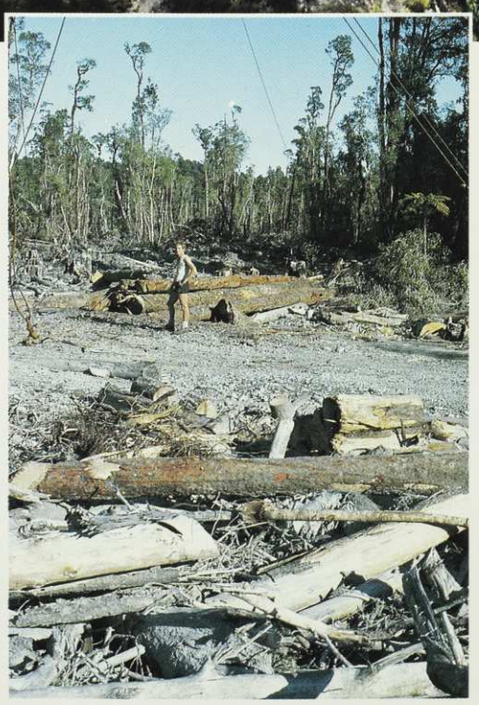
The highly delicious fruits were also keenly sought by the early Maori. In daring feats of strength and skill they climbed the tall trees to collect fruit in baskets which were lowered to the ground by a cord. The Maori people made use of the kahikatea in other ways too; soot obtained by burning the hard resinous heartwood was used as a fine pigment for tattooing and spears were also fashioned from the strong heartwood known as mapara.

New Zealand's most primitive podocarp

Scientists have an equally fascinating account of the origins of kahikatea which they know as *Dacrycarpus dacrydioides*. Like rimu and most of our other big timber trees, kahikatea belongs to the Podocarp family (seed suspended on a fleshy foot or carpel). This is an ancient Southern Hemisphere gymnosperm family of mostly forest trees whose evolutionary lineage can be traced back to the Gondwanaland forests of the Mesozoic.



Kahikatea fruit. *Photo: Mary McEwen*



"It was as straight as an arrow, and tapered but little in proportion to its height . . . the finest timber my eyes ever beheld . . ." — James Cook writing in his journal, 1769. Sadly, this tall tree and its companions below the Franz Josef glacier were clear felled in early 1986 despite conservation protests against the transfer of this former Crown land. *Photos: Gerry McSweeney*

Kahikatea is the most primitive of New Zealand's podocarps. Fossil pollen grains from *Dacrycarpus*, of which kahikatea is the only modern day representative in New Zealand, occur in 110 million-year-old deposits found in Fiordland and the south Nelson district.

Today's kahikatea swamp forests probably closely resemble the forests of ancient times before mountain building commenced. These are truly dinosaur forests — nothing as ancient occurs anywhere else in the world. Before settlement, kahikatea forests spread across most fertile lowlands

from North Cape to Bluff. In some regions, such as Taranaki where the soil was rich and the rainfall plentiful, it occurred as a component of forest on the easier hill country. However, the best developed stands were found on the flood plains and in the swampy lowlands.

Great walls of kahikatea lined lowland riverbanks. Dense kahikatea swamp forests and open flax or raupo swamp spread across the poorly drained plains away from the rivers. A great kahikatea forest between the Thames and Piako rivers was reputed to be the largest in the country.

Captain Cook heralds an era of destruction

Captain Cook discovered this forest for Europeans in 1769. He recorded in his journal that" . . . *The banks of the river (Thames) were completely clothed with the finest timber my eyes ever beheld . . . every tree as straight as a pine and of immense size . . .*" But Cook was in search of resources not beauty and he soon had his measuring tape out. He noted the trees' dimensions in his journal then added:
"It was as straight as an arrow, and tapered but little in proportion to its height, so I judged there were 356 cubic feet of solid timber in it. As we advanced we saw many others that were still larger."

When the Europeans arrived en masse the slaughter of the kahikatea forests began in earnest. They were the very first forests cleared and none were spared. The trees yielded a serviceable, easily worked timber and the cleared ground grew lush pastures. The non-tainting properties of the wood ideally suited it for use as butter boxes for the rapidly expanding dairy industry. The onslaught led to the very early demise of kahikatea. As early as 1908, it was noted that "*the forests of pure white pine that used to exist in the Auckland district have almost gone . . .*" (Annual Report, Department of Lands, 1908).

Concerns about the future of kahikatea were expressed by the Royal Commission of Forestry in 1913: "*How long the white pine will last at the present rate of consumption we cannot say.*" Conservation concerns were raised in 1918: "*considerable public interest has been manifest in discussing the importance of conserving New Zealand timbers, more especially as regards kahikatea which is fast becoming scarce*". (Annual Report, Department of Lands 1918). Yet the clearance continued. By 1919 it was impossible to obtain adequate supplies and by 1924 even the inland forests were largely cut out with "*the exhaustion of the white pine resources* (of the King Country) *driving millers far afield.*" (Annual Report State Forest Service 1924.)

Attitudes were succinctly summarized by the State Forest Service in their Annual Report for 1947: "*The problem is a simple one. It is merely dairy farming versus white pine forestry: and there can be little doubt about the decision. Dairy farming demands such land (and timber) in the national interest and kahikatea forests are therefore impossible.*"

The production-oriented Forest Service adopted a pair of kahikatea trees as their emblem. The irony in this may have been lost on the foresters, but not on conservationists who marketed T-shirts in the 1970s showing the trees cut off at the stumps.

Now as rare as mature kauri

Today, mature kahikatea forest is a nationally rare and endangered ecosystem. Because only a handful of pocket handkerchief stands survive, it is no longer included in the list of North Island forest types, (Nicholls, 1976). With the exception of South Westland, the story is the same in the South Island.

Throughout the country a few tiny relicts survive near cities and towns. Claudeland's bush in Hamilton, Riccarton bush in Christchurch, Waihopai bush in Invercargill give us an inkling of what these flood plains were once like. They leave us feeling vaguely uncomfortable about our culture, being little more than museum pieces often severely damaged by changes in the surrounding water table, the influx of weeds and the impact of heavy human use.

Our declining swamp birds such as fernbird, crake and bittern (pictured) find a stronghold in the swamp forests of South Westland. *Photo: Wildlife Service*

Logging of privately-owned kahikatea in South Westland continues unabated, the greatest tragedy being the clearfelling of a magnificent forest at the Waiho rivermouth below the Franz Josef glacier. Conservationists campaigned for the protection of this state forest in the mid-70s as part of the Okarito-Waikukupa Westland National Park addition. However, Waiho Sawmills Ltd secured it in a land exchange approved by then-Minister Venn Young and have been clearfelling it ever since.

The publicly-owned forests of southern South Westland from Fox Glacier to Haast are presently under a logging moratorium. Before the moratorium was imposed in 1982, over 80 percent of the kahikatea forests were zoned by the Forest Service for immediate logging.

The kahikatea forests of South Westland lack the floristic diversity of the largely extinct kahikatea forests of the North Island. Characteristic North Island forest companions of kahikatea such as the buttressed pukatea, swamp maire, perching pittosporum and nikau only grow south to Karamea. However, South Westland kahikatea's scenic setting is without parallel. Crammed onto the tiny shelf of low-lying land between the Tasman Sea and the snow-clad peaks of the Southern Alps are a series of great kahikatea forests. Kahikatea line the banks of big brawling rivers and sluggish meandering streams and stretch around the margins of flax swamps and lakes.

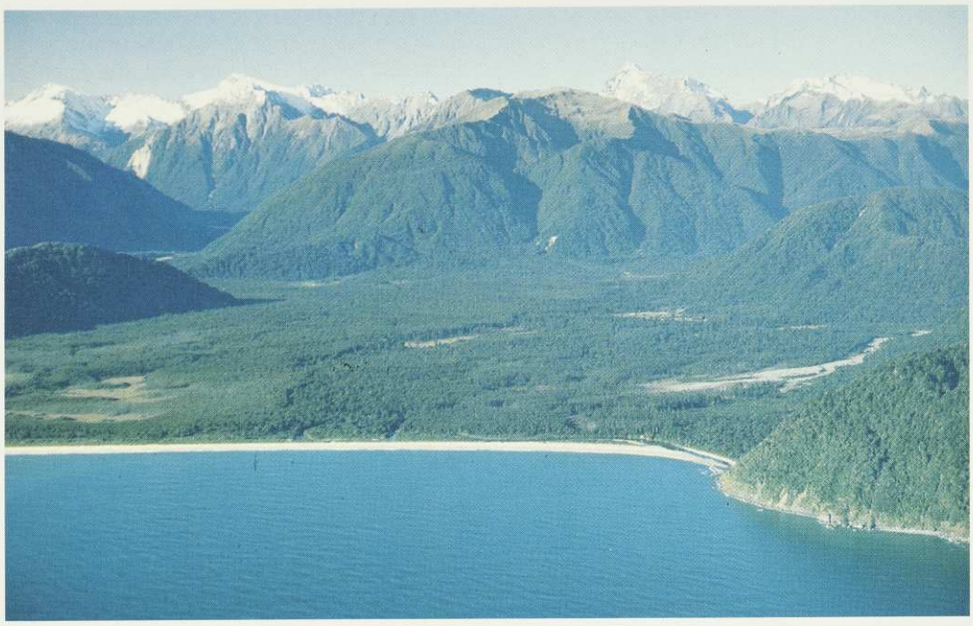
The total extent of the remaining dense stands in South Westland is 4500 hectares. There are 5350 hectares of medium and low density stands where kahikatea may occur in association with rimu, kamahi, silver beech (south of Paringa) and other hardwoods. The combined total of 9850 ha is just a little more than the area of another heavily exploited forest type — mature kauri forest — of which only 7400 hectares remain mostly protected in forest sanctuaries such as Waipoua.

Forests of river flood plains

Virgin kahikatea forest in South Westland is broadly of two types — alluvial forest and swamp forest — both of which are confined to the post-glacial rivers. Their flood plains provide an ever-changing landscape as rivers flood and periodically change course. The combination of high rainfall (3-4000 mm on the coast rising to 13000 mm inland) and a rising, eroding mountain range, means that few places anywhere in the world experience such regular flooding and erosion. Westland National Park's only two small stands of kahikatea were both virtually destroyed by overnight changes in the course of the Cook and Waitangitaona rivers in the early 1970s. Because of its abundant seed production and light-demanding seedlings, kahikatea is well adapted for survival on these dynamic flood plains. Successions from flood plain to forest develop on areas recently abandoned by the river. Herbs and grasses slowly give way

THE LEGEND OF TAWHAITARI

A number of legends and proverbial sayings feature kahikatea. The Nga Potiki people have a story about its origins. A chief from Aotearoa, Pou-ranga-hua was blown out to sea in his canoe and was eventually cast ashore upon the island of Hawaiki. His canoe was destroyed and he stayed on the island where he was kindly treated by its people. Yet he yearned to return to his wife and home. He begged a huge bird, Tawhaitari, to fly him to Aotearoa. On approaching his homeland, Pou reached out his hand and stretching under the wings of the great bird, pulled out some of its finest downy plumes, which he threw into the ocean. From these plumes arose a lofty tree, which still bears fruit in the midst of the waters. A branch of this tree was broken off by the wind and cast ashore, and from this branch came all the kahikatea forests of Aotearoa.



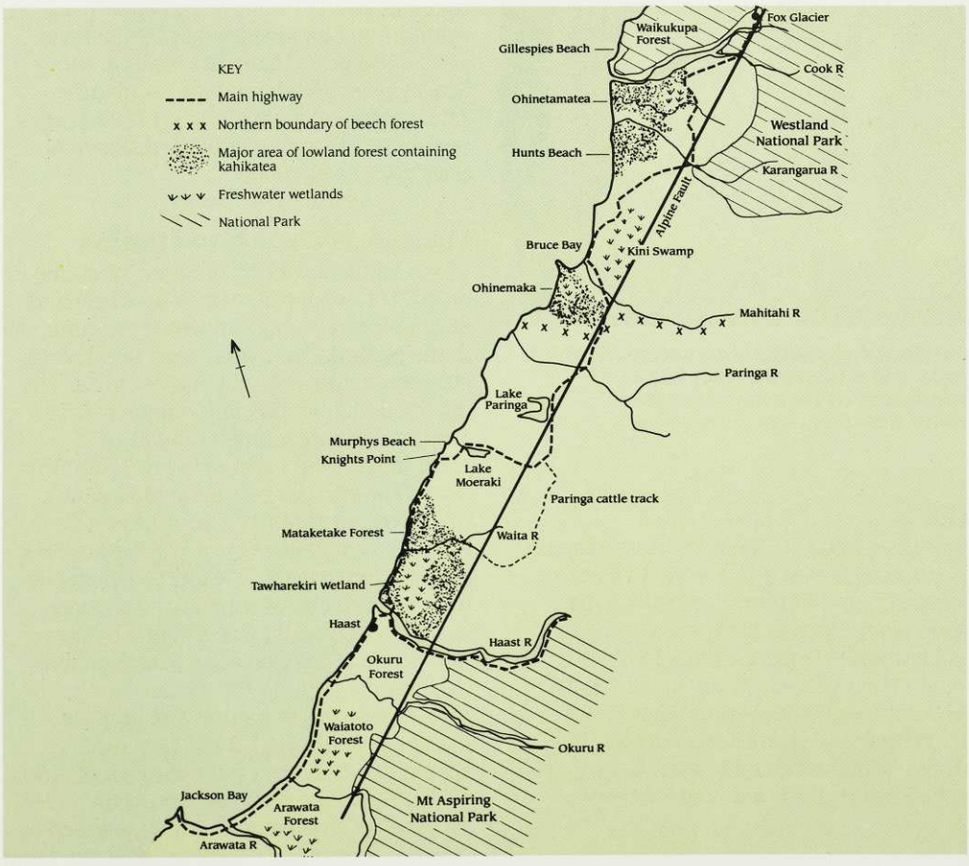
Between mountains and the Tasman Sea, along a narrow coastal plain, Southern South Westland is the last stronghold of kahikatea forest; Ohinemaka forest. *Photo: I.R. Platt — N.Z. Forest Service*

to shrubs, such as *Coprosma propinqua* which provide shelter for the seedlings of kahikatea.

Very dense stands with more than 200 trees to the hectare may develop on the silt terraces. Good examples occur in Ohinetamatea forest, along the bank of the Karangarua river in Hunts Beach forest, and to the south in the Ohinemaka forest. Further flooding and silt deposition can rejuvenate these stands. A new wave of kahikatea regeneration can establish amidst the flood-damaged forests. On better drained sites, where young kahikatea have difficulty competing against an understory of hardwoods, low volume stands develop which feature scattered large kahikatea. Forest of this sort lies between the meanders of the Ohinetamatea River.

Unfortunately, the expansion of farming on the river flats means that few new stands of kahikatea can now develop. Grazing maintains the grass sward, preventing regeneration. This is leading to a gradual diminution of the kahikatea forest estate.

If undisturbed by floods, rimu slowly enters the alluvial kahikatea forests leading ultimately to a rimu-dominant forest. But this only happens on sites where the water table is low enough to permit root mats to cover the forest floor. Unlike rimu seedlings, the fertility-demanding kahikatea seedlings are unable to establish in the root mat and are pushed out as the areas of bare silt or mud diminishes and as soil nutrient levels decline over time. Ohinemaka forest contains excellent examples of these successional sequences.



The floating forests

If the water table is high and nutrients are brought in by inflowing water, the alluvial stands may develop into dense kahikatea swamp forests. Such forests can also develop from the gradual colonisation of fertile flax swamps. The premier swamp forests are those of Hunts Beach and Mataketake forest.

Open water covers much of the swamp forest floor especially after heavy rain. These forests grow on layers of deep peaty ooze. Interlocking root systems form a platform over the ooze or even over flowing water, resulting in a truly floating forest.

Few other forest trees can cope with these wet conditions. While kamahi may be common in the swamp forests, the trees are rather spindly. The understory vegetation may be abundant. Sprawling masses of Kie-Kie are a feature of coastal kahikatea forest and, in places, huge colonies of the flax-like *Astelia grandis* can give the swamp forest a very distinctive appearance.

These swamp forests regenerate freely. Kahikatea's spongy rootlets seem to enable it to move oxygen downwards so that its roots can function in waterlogged conditions. This ability enables kahikatea to exploit a regeneration niche unavailable to other trees: the often inundated areas of bare mud on the forest floor. Its seedlings establish around the margins of the mud pools or on debris, such as tree branches or punga trunks, that fall into the pools. Seedlings germinating on the debris may survive if they reach a sufficient size before the debris rots away. This is a brilliant regeneration strategy as the seedlings avoid root competition from other plants and the young kahikatea can grow up to the canopy in the light wells that usually exist above the pools. All stages of the regeneration cycle can be seen in the mature swamp forests — dispelling once and for all the forester's myth that these are single crop forests.

The kahikatea forests have recently been investigated by scientists and foresters in a $6 million research effort initiated by the Forest Service with the aim of allowing "balanced decisions" over the southern South Westland forests, wetlands and mountainlands. One of the outcomes of this massive research effort has been a recommendation from Forest Service and Lands and Survey scientists for reservation of all remaining kahikatea forest areas (Stengs and Comrie 1987).

Haven for fish and birds

South Westland's kahikatea forests are a rich wildlife habitat, all year round. In good seed years there is also a massive influx of fruit-eating birds into the forest. Mature kahikatea trees are commonly also laden with heavily fruiting epiphyte species and are emergent from an understory of nectar and berry-producing hardwoods, so the whole forest is of immense value for native birds. Standing dead kahikatea are also immensely attractive for both insectivorous birds and as nest sites. For several birds South Westland's lowland forests are an important winter refuge. Numbers of silvereyes, bellbirds, fantails, tuis and pigeons increase three to four fold in winter com-

pared to summer (O'Donnell and Dilks, 1986).

Fernbirds, crake and bittern abound in the open swamps associated with the swamp forests. Just on half the bat records from South Westland are from kahikatea forests, suggesting they provide vital habitats. Soft kahikatea wood is full of holes, ideal as bat roosting sites. It is therefore no surprise that loss of kahikatea forest elsewhere in New Zealand is paralleled by the disappearance of native bats.

Kahikatea forests also provide crucial swamp and forest stream habitats for a number of declining native fish, including several of the galaxiid species that make up South Westland's famous whitebait fishery. Most notable of these is the giant kokopu which is scarce outside the region, but survives in good numbers in South Westland's swamps and meandering lowland rivers.

To protect these species and 15 other native fish in the region, the Ministry of Agriculture and Fisheries is seeking the protection of the wetland and swamp forest complexes of Ohinetamatea and Mataketake forests.

For all these reasons the Wildlife Service has recommended the protection of all the kahikatea forests of South Westland.

Preservation or production?

Given the irreplaceable natural heritage values of South Westland's kahikatea forests, it is not surprising that government scientists, conservation groups and other environmental agencies are seeking their complete protection. The case for further logging or clearance for farmland is particularly weak and cannot be supported on economic or social grounds.

Kahikatea has a pale and featureless timber which has no importance as a decorative material and no essential specialist uses. Large quantities of kahikatea from private and leasehold land in South Westland have been used as boxing around concrete poured on the Waitaki power project. Otherwise, the major use of kahikatea is in weatherboards, fasciaboard and scaffold planks. There is a Japanese interest in kahikatea panelling because of its bland featureless appearance.

The Forestry Corporation, West Coast Sawmillers and Westland Country Council are expected to lobby strongly to open these forests up for logging, possibly at a low level of cut. Yet despite years of costly and destructive logging trials foresters have been unable to find a workable sustained yield logging technique for the South Westland podocarp forests. They have also completely failed to examine the economics of sustained yield timber production from these remote forests. Joint Forestry Campaign researcher, Dr Peter Grant, contends that the bulk of the timber could only be logged at a loss. Moreover, no sawmills operate in these southern state forests at present. Mills interested in logging the kahikatea forests are located far to the north in the Whataroa and Hokitika districts.

Agricultural economists have shown that forest clearance for land development in the region would be uneconomic and contrary to the national interest.

Tourism far exceeds forestry

Kahikatea forest can make a major contribution to the regional economy through tourism. Kahikatea, if given the protection and promotion it deserves, could attract tourists just as kauri does to Northland and the Coromandel. Yet ironically, at present, there is not a single track through South Westland kahikatea forest. Tourism is already big business in the West Coast. For the year ending 31 March 1986, 465,000 tourists visited the West Coast with a direct income to the regional economy of $91 million. The value of tourism to the region far exceeds the $61 million contribution from the timber industry — a fact that is helping to win West Coast support for conservation.

The Government has set up a committee chaired by the Secretary of the Environment, Dr Roger Blakeley, to make recommendations on the future of these kahikatea forests and other natural lands of South Westland. This committee has invited public submissions on the future of these forests. The outcome of this exercise will be entirely dependent on the amount of public support there is to give full legal protection for the kahikatea forests in a South-West New Zealand World Heritage Area. This is perhaps the greatest conservation opportunity this country has ever seen, and it is an opportunity that will never come again.

Kahikatea! May the feathers of Tawhaitari bear fruit forever in the midst of the waters of South Westland.

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Speaking for the trees — a personal statement.

My interest in South Westland and its great podocarp forests dates back to when I was a boy in a small King Country sawmilling town of Owhango. I was keen on nature and was given Cockayne's *New Zealand Plants and their Story*. This contained a couple of John Johns' marvellous black and white photos of South Westland's forests including one of a dense stand of kahikatea at Harihari. Those photos sparked my interest in West Coast forests and helped set me off on a career in forest ecology.

Later, after working with the Forest Service in the West Taupo forests, I jumped at the chance of research work on South Westland kahikatea forest. I fell in love with the place on my forest field trip and soon shifted over to Harihari with my wife, Barbara Devery. We have been here now for 10 years and are enjoying watching our children grow up full of delight in the natural world around them.

I vividly recall our first experience of kahikatea forest: wading through knee deep water beneath incredibly tall trees, meeting a friendly robin that perched gaily on our heads, then breaking out on to the riverbed and being overwhelmed by the panorama of forest, river and mountains. But a trip to a logging site in Ianthe forest brough us back to earth with a thump. The destructive wasteful logging there was no different to that of the King Country or West Taupo.

Ecology soon merged into conservation as we joined the long fight for Okarito, Pureora, Paparoa and the kahikatea forests. Barbara took to possum trapping to supplement my meagre research grant and I soon followed out of necessity. For five years I chased possums in Saltwater and Okarito forests and spent each spring deer shooting in the kahikatea and beech forests of Mataketake forest. During these long periods alone in the forests, they became part of me and I gradually learnt to live by nature's rhythms.

Every spare moment it seems was spent on conservation until three years ago when Forest and Bird gave me the opportunity to work full time on conservation. For Barbara and I, life has not always been easy as conservationists on the West Coast but we are sustained by the tremendous energy generated by thousands and thousands of people throughout New Zealand determined to protect their precious nature heritage. Our greatest satisfaction has come from watching more and more courageous West Coasters speaking out in support of conservation. For if we don't speak for the trees, who will, if not now, when.

Kevin Smith 18.3.87

EYRE-CAIRNARD

BIOLOGICAL TREASURE TROVE

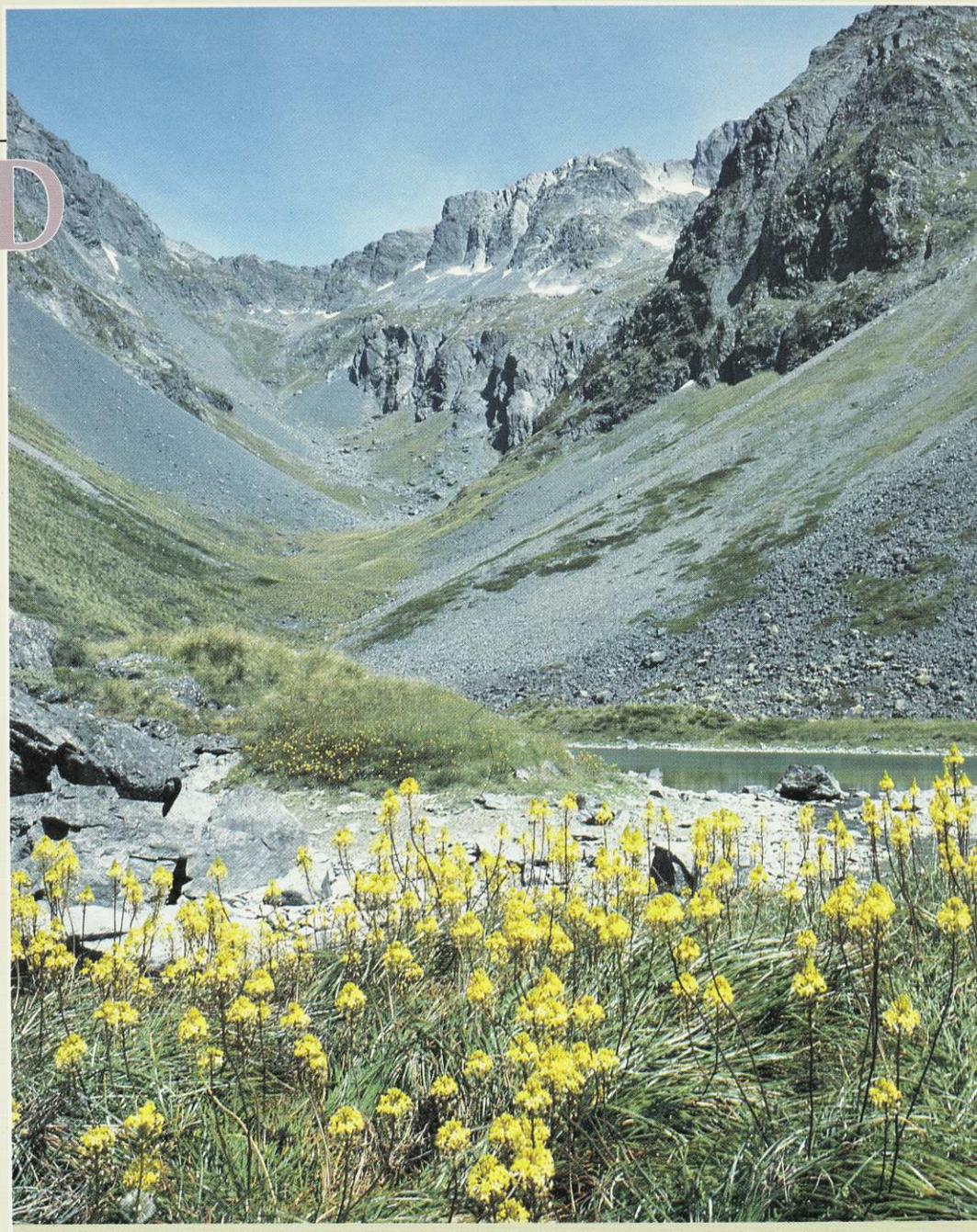
by Dr Alan Mark
Society President and Survey Leader, and Gerry McSweeney
Society Conservation Director.

In many ways Southland's Eyre Mountains remain a scientific mystery. Lying between Lake Wakatipu and Fiordland, they present access problems with the lake discouraging visitors from the north and east, while to the south and west Fiordland and Mt Aspiring's mountains have always proved a greater lure to scientists.

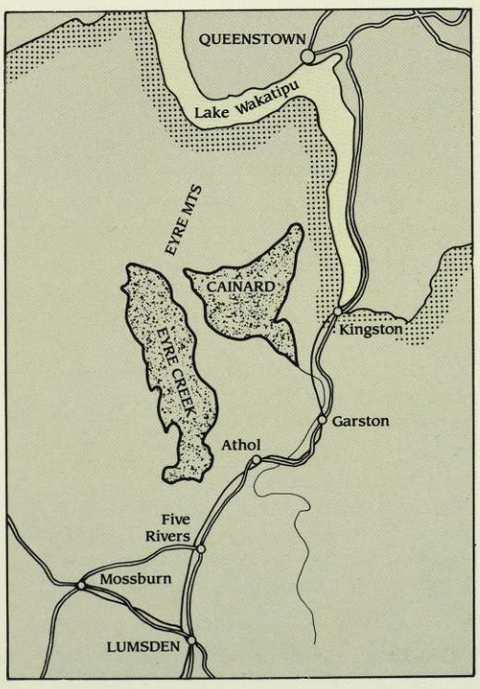
Best known of the high country pastoral lease properties in the Eyre Mountains are those adjoining the lake. The 25,000-hectare Walter Peak station and the 13,300-hectare Cecil Peak station have featured in tourist schemes for many years. Even larger, the 36,000-hectare Mt Nicholas and the smaller Half Way Bay stations are less well known. Equally poorly known are two former pastoral leases; Cainard and Eyre Creek which lie in the heart of the Eyre Mountains. These 34,000 hectare properties were taken over in severely eroded state by the Crown in the 1950s and have since been farmed to protect water and soil values. Yet despite this until recently little was known of their natural values.

Imagine then the excitement of our small team of scientists this summer when we unearthed a biological treasure trove during an ecological survey of the Eyre Creek-Cainard block.

Among our finds were: the first population of rock wren found away from the Southern Alps; numerous yellow-crowned parakeet, a species now described as vulnerable; a widespread population of the threatened falcon, and many rare plants including two mountain daisies, one of which had pink colours — unheard of for a New Zealand alpine daisy.



Maori onion, *Bulbinella angustifolia* carpets the shore of a small tarn in Little Jungle Creek, Eyre Creek Crown land block. Rock wren were discovered in boulders at the headwaters of this stream. *Photo: Gerry McSweeney*



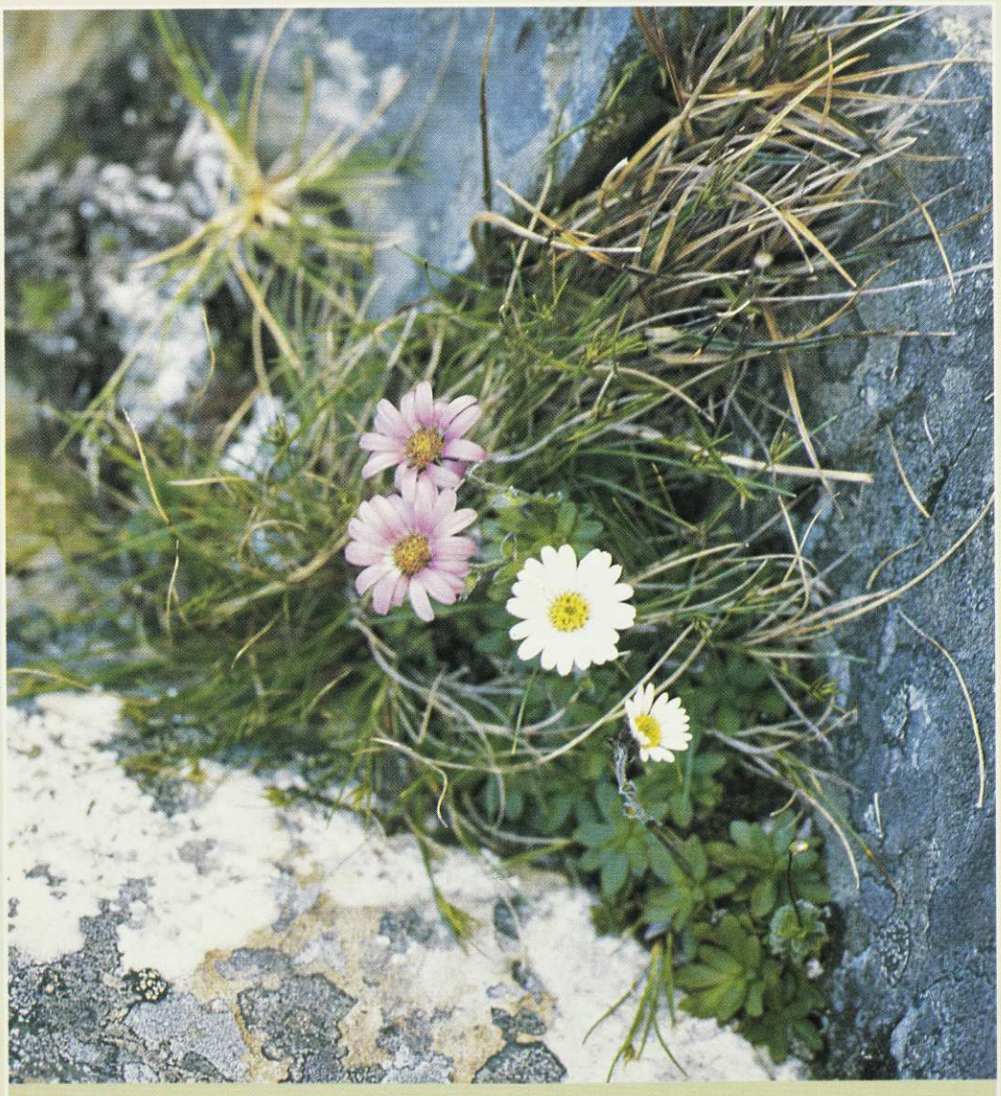
Representative tussock sequences

But most significant of all, our party of 13 biologists recorded largely unmodified sequences of native vegetation from valley floor to mountain top. In the rapidly changing world of New Zealand's pastoral high country, such sequences, examples of what the country used to be like, are now becoming scarce. Because of the soil conservation programme, substantial eroded areas on Cainard have been fenced to exclude stock. Free from grazing, there has been a great resurgence of native herbs and tussocks. Head-high snow tussocks and waving masses of native blue wheatgrass amongst the short tussock are sights described throughout the high country by early European settlers but rarely seen since, because of the continued pressure of grazing and burning.

Transition zone from west to east

Why are the Eyre Mountains so special? The answer seems to be that they are a transition zone of rocks, landforms and climate. Sandwiched between the craggy glacial-carved gneiss of Fiordland and the rolling schist tops of Central Otago, the greywacke dominated Eyres, like the Takitimus further south, physically resemble the ranges of Canterbury. Geologically distinct and isolated from surrounding Otago and Southland mountains plant species and communities have evolved quite different from anywhere else.

Rock wren have been discovered in at least four sites on the Eyre and Cainard Crown lands. This is the first record of this high alpine species on a mountain range east of the Southern Alps. *Photo: C.R. Veitch N.Z. Wildlife Service*



New Zealand's first recorded pink mountain daisy *Celmisia thomsonii* only occurs on shady bluffs along a 2 kilometre section of the Central Eyre Mountains.
Photo: Gerry McSweeney

Glaciers long since melted have left their mark on the landscape, gouging out cirques (both with and without lakes), hanging basins, moraines, arêtes and other impressive glacial landforms. Climatically, too, it is an area of transition, from the extreme wet of Fiordland to the equally extreme dry of Central Otago.

The dramatic drop in rainfall from west to east is reflected in the vegetation of Eyre Creek. In the western headwaters, red, silver and mountain beech trees jostle for dominance. Shrublands contain wet-loving celery pine, tree daisy, dracophyllum and flax. Down valley, there is a dramatic transition to the relatively drought tolerant mountain beech and thorny thickets of matagouri and *Corokia*.

By dint of good management the past ravages of unfettered pastoralism have now been halted. It is nearly 30 years since the Crown decided to take over the Eyre-Cainard blocks which had been abandoned by

Succulent cushions of *Celmisia philocremna*, another very rare mountain daisy which is entirely restricted to bluffs in two streams in the Central Eyre Mountains.
Photo: Neill Simpson

. . . STOP PRESS . . .

Landcorp are demanding title to all lands below 3000 ft in the headwaters of Eyre Creek and the mataura River. This will deny DoC the opportunity to reserve bush, short tussock and dry shrubland communities on the lower slopes and valley floor, vital for any representative reserve sequence. Landcorp are also demanding the right to graze sheep to the 5000 ft eroding range crest on land allocated to DoC on Cainard. Surrounding private farmers have all sensibly retired such lands under Catchment Board run plans. Final allocation is still unresolved.

their pastoral lessees in a derelict and severely eroded state. Since that time burning and grazing in the ecologically important areas has all but ceased. Indeed, more than 70% of the blocks are classified as severely eroded or eroding land (Class 8 and 7e) which is unsuited for sustained grazing. Under Government policy this land is to be destocked and managed for soil and water protection. On Eyre and Cainard this should mean that only the relatively small low altitude areas of the two blocks are used for farming, although sheep are still grazed on some severely eroded high altitude areas.

Most biological interest in the Eyre Mountains centres on the slopes of Jane Peak (2035m) and Eyre Peak (1968m), plus the upper reaches of Eyre Creek. It was mostly to here that a previous handful of scientists have come — notably between 1912 and 1916, in 1927, and the late 1960s. In more modern times, Dr David Given, a specialist on New Zealand rare and endangered plants, had visited the area in the 1970s and one of us (Dr Alan Mark) had also collected material for his book on alpine plants here in the early 1970s.

For ten days various parties from our group climbed each day from the valley floor to the range crest sampling vegetation and insects in all the tussock, forest, shrubland and alpine communities. However, our January's 1987 expedition ranged as far afield as the Mt Bee-Helen Peaks area of Eyre State Forest well to the south, as well as to the Gorge Burn catchment which feeds the Oreti river to the west.

Head high tussocks

Our group was heartened by the good condition in which we found most of the mountain vegetation sequences, from forest, shrublands, grasslands, fellfields and on up to bluffs and screes. Alpine buttercups were in glorious flower showing little grazing and stands of narrow leaved snow tussocks were flowering abundantly and were head high, a rare phenomenon in this type of country.

Most of this type of tussock, which is magnificent when in heavy flower as it was this year, is now stunted elsewhere through grazing and repeated burning.

Several of the alpine plant discoveries would be the envy of many collectors and for that reason we are anxious not to reveal their precise locations.

The mountain daisies *Celmisia thomsonii* and *Celmisia philocremna* were two outstanding finds, the former probably the first pink alpine daisy recorded in New Zealand. About five percent of the plants had pink coloured flowers, while others displayed a curious mix of pink and white petals. Apparently none of the earlier observers had seen this species in flower and consequently they missed discovering their flower colour. Of the wildlife recorded, the most significant were the four populations of rock wren, the first recorded to the east of the Southern Alps. Also of note was a rare land snail, *Powelliphanta spedeni var spedeni* found locally in snow tussock grassland.

Crown or Corporation control?

In sum, our survey considered that the Eyre Creek and upper Mataura catchments, and the Mt Bee-Helen Peaks sectors were "outstanding biologically because of the numerous natural values they contain." The 13-strong party included Katharine Dickinson and Brent Fagan (botanists, Otago University), Colin Meurk (Botany Div. DSIR), Neil Simpson, Brian Rance and Susan Timmins (botanists, Lands and Survey), Hazel Sandicock (botanist, New Zealand Forest Service), Barbara Simpson (botantist), Barbara Barratt (entomologist, Ministry of Agriculture and Fisheries), Brian Patrick (entomologist), Graeme Loh (Wildlife Service) and the authors.

Eyre Creek and Cainard were under the control of the Lands and Survey Department until the 1 April 1987. But under the land allocation accompanying environmental restructuring, future management responsibility for the blocks has been under debate. Conservation and recreation groups have challenged the interim allocation in mid 1986 of both properties to Landcorp. Fortunately, this allocation is now being reviewed.

The groups have no objections to the Land Corporation holding title to and farming the lower parts of the properties provided there is public access up the streams. However, protection of the upper altitude areas totalling 20,000 hectares and the stream sides which form the headwaters of the Mataura River is vital and should be under the control of the Department of Conservation. Little of this area is presently farmed.

The distinctive and important forests, shrublands, tussock and alpine lands of Eyre and Cainard, when combined with the adjoining Eyre State Forest and destocked parts of Mt Nicholas, Half Way Bay and Walter Peak stations form an extensive natural area totalling some 80,000 hectares.

This offers a magnificent opportunity for a large scenic reserve or conservation park in the heart of the Eyre Mountains.

Acknowledgements

The assistance of the farm managers of Eyre Creek and Cainard and of the Lands and Survey Department in cooperating with our survey is gratefully acknowledged.

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FORESTS, FIORDS AND GLACIERS
NEW ZEALAND'S WORLD HERITAGE

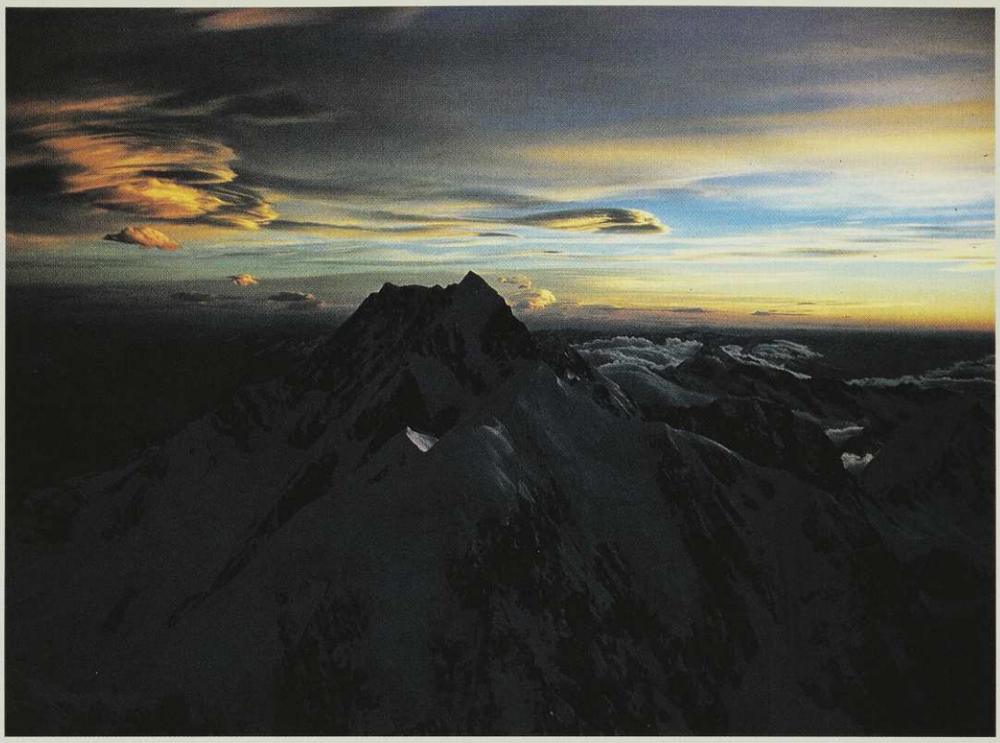

Photo: Mt Cook *Photographer: Brian Brake*

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NATURE TOURISM — in Harmony with Nature

by Gerard Hutching

The face of New Zealand tourism, both domestic and overseas, is changing. In the last few years a psychological shift has taken place.

Tourism advertising used to focus on luxury hotels and coach tours — passive holidays which no longer appeal to the sophisticated tastes of today's traveller.

People now want to *do* more rather than *see* more. A landmark 1980 tourism survey by Professor Brian Henshall of Auckland University pointed the direction in which tourism was heading: it showed that the most popular activity for both overseas and New Zealand tourists was to visit a national park. For 70 percent of those surveyed, this came at the top of their list. Next highest was to visit a museum and a botanical garden.

In response to these preferences, tourist operators have been starting to cater for those who are prepared to pay to be guided around New Zealand's natural areas. The last few years has seen a proliferation of tours, some organised by traditional operators and others by do-it-yourselfers who have entered the field through being already involved in it in some way.

Special interest era

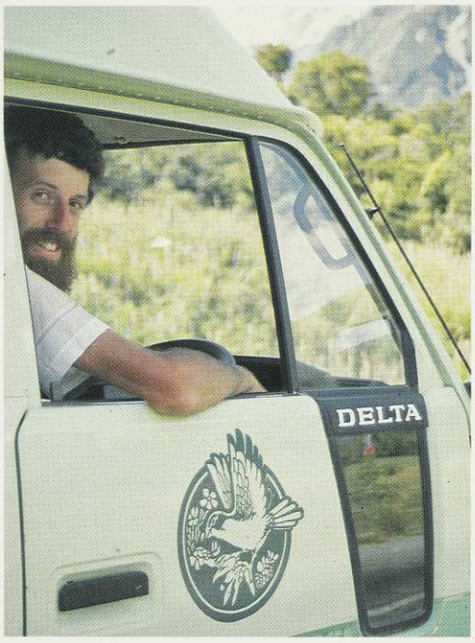
The era of the special interest operator has arrived, offering action packed adventure holidays, farm visits, photography and garden tours.

However, companies which solely run high quality natural history tours are few and far between. The Tourist and Publicity Department keeps a list of 69 companies under the broad heading of "Outdoor Holiday", some of whom employ guides specialising in natural history.

Dunedin-based botanist, Mark Hanger, and birds expert, Rodney Russ of Southern Heritage Tours, are possibly the only people in New Zealand making a full time living from leading natural history tours. Others may hire specialists to carry out the guiding or guide only in season; Southern Heritage directors lead the tours and the company operates all year round.

Mark and Rodney, along with their wives Marina and Shirley, formed the company in 1985. Prior to that their work with Government departments — the Lands and Survey Department for Mark where he organised summer nature programmes and the Wildlife Service for Rodney — convinced them there was an opening for high quality, specialist tours exploring the South Island's natural history. The emphasis was to be on quality; they did not want to emulate package bus tours which tend to cram in too much into too few days.

From the start they were fully committed to the business, buying a specially outfitted minibus which plunged them immediately into the red. They first advertised three trips — South Island alpine wildflowers, Southern Parks and Otago's Gold — and the good response to these encouraged them to branch out to include Stewart Island, northern South Island alpine wildflowers and rare birds.



Mark Hanger: "I prefer to see quality tourism. We must ensure people come away with a greater appreciation of the environment."

Mark says that he felt before starting the company that New Zealand's natural history was not being interpreted to its full potential and that he could offer more than what people saw on, for example, the National Parks and Reserves Summer interpretation programmes.

"The Park's programme is more aimed at a middle of the road interest. We explore a subject in depth, like alpine wildflowers, by spending 10 days visiting different alpine areas." he says.

"The southern alpine wildflowers trip, for example, starts in Arthurs Pass, down through Peel Forest, the Hooker Valley, Ben Ohau Range, Old Man Range, Key Summit and finishes in Waituna Wetlands near Invercargill where alpine plants occur at sea level.

Because the minibus takes 12 passengers at a maximum, friendships can easily form and blossom until by the end of the trip a group of strangers have formed into a close knit "family." Mark says he takes a relaxed approach to guiding so that his clients relate to him as a friend. Both he and Rodney Russ, his partner, enjoy working with people.

The typical Southern Heritage client is female, over 50 and a North Islander — "not necessarily wealthy but enthusiastic and very inquiring, not passive like your usual tourist."

Unlike large bus tours, the highlights of which tend to be the tea stops, the Southern Heritage bus takes to the road only in the early morning, driving for perhaps an hour to a destination where the botanising or birdwatching is done until late afternoon. Any long distance travelling is then done in the cooler evenings.

New partnership

For those interested in pursuing a subject in greater depth, Southern Heritage provide a natural history library on the bus, deliver entertaining slide talks on several evenings and can provide a wide selection of videos for viewing in the comfort of hotel rooms.

The cost of a typical tour is approximately $120 a day. This compares favourably with package bus tour costs of $100 a day, considering the smaller number of people and the quality of guiding, says Mark.

Much has been made of the new partnership between conservation and tourism. The partners in Southern Heritage Tours are acutely conscious of the fact that their survival depends on the survival of our natural areas, and it is a message which they subtly impart to their clients in the course of a trip.

For example, Mark sees the changes occurring in the great tussock of the MacKenzie Basin as an ecological tragedy. Seedlings of *Pinus contorta* are spreading at such a rate that the traditional breathtaking vista of tawny tussocks stretching to the horizon will be a thing of the past in a few decades. Sweet briar is also making tremendous inroads into the high country.

A company which has been in the field longer than most is Venturetreks, run by Walter Romanes. Originally started as a part time business in 1971, it became full time by 1974. At this time it was dealing with overseas tours for New Zealanders, but began New Zealand treks in 1975 in the Urewera and Wanganui. By 1980 the company had expanded, enabling it to build a lodge at Ohakune, to where people go for week-long stays. Walter Romanes employs well known "names" in the natural history field such as John Morton, Geoff Moon, Ewen Cameron and Gerry McSweeney to act as guides.

Venturetreks stopped running 5-day treks some years ago in favour of providing more of a learning experience at the Ohakune lodge. "About five years ago I began to see a subtle change. Now people come to New Zealand to see the people and the plants rather than just the scenery. They want to become involved in the country," says Walter Romanes.

He is now developing special interest overseas tours to the Pacific Islands and Australia. These often appeal to the second and third time traveller to an area who wants to do more than skim the surface.

Today Venturetreks employs as many as 12 during the height of the season. Walter Romanes is confident that natural history tourism will continue to grow, citing as evidence the fact that the outdoors are such a part of New Zealanders' lifestyle.

Peter Dale from the New Zealand Council for Recreation and Sport sees the western world's increasing ageing population as the best proof that nature interpretation tours will grow in popularity.

Cream of the future

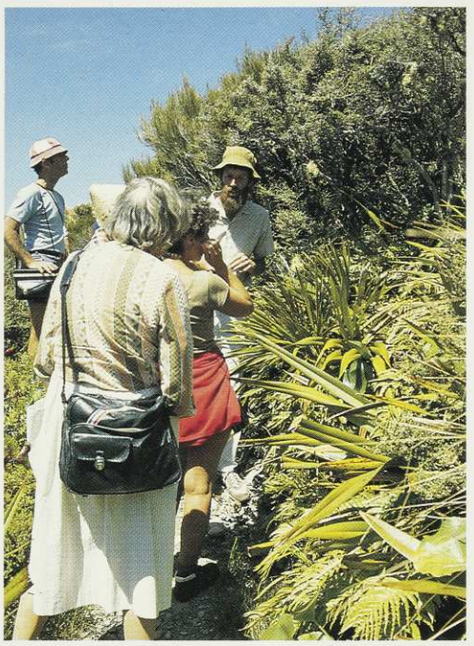
"These sorts of special interest tours are the cream of the future. The action holidays have had their day in the sun. As we age we will look to the more passive but still adventurous holiday," he says.

He makes the point that most of the natural history tours he has seen to date have been the work of enthusiastic amateurs, but that will change as the demand grows.

Not to be forgotten among those running natural history tours are the State Forests and National Parks and Reserves Summer Programmes and volunteer groups such as the Royal Forest and Bird Protection Society.

The National Parks and Reserves Summer Programmes are now largely operating under a user-pays basis — a system initially approached with a degree of trepidation — but the success of the 1986–87 summer programme showed that people were prepared to pay for a worthwhile service.

Forest and Bird and other conservation organisations have long been in the business of natural history interpretation. Every weekend, in virtually every large town in New Zealand, a guided walk is offered to a place of interest — and only for the cost of the transport. At times two and three day trips are organised with high quality guides.



For many the thrill of discovering about their own heritage is as exciting as any action-oriented holiday such as rafting or skiing. As our society ages, more passive but nevertheless adventurous tourism will increase in popularity.

Debate has been going on for several years in the Society about Forest and Bird running such tours professionally, but to date no concrete moves have been made.

Peter Dale believes the Society is in a good position to move into the field. "I could put a terrific case for Forest and Bird carrying out this work," he enthuses.

Equally, others put just as strong a case the other way, pointing out that Forest and Bird's primary job is conservation and that it shouldn't get sidetracked into other areas. The Forest and Bird executive discussed the issue at length in early 1986. They felt that there were so many pressing conservation issues in forests, coastlines and tussock lands that our hard pressed resources had to be focused on these. Nevertheless, they resolved to encourage private people to link conservation with their tourism operations.

Recently, Society West Coast field officer, Kevin Smith, ran two very popular week-long non-profit nature discovery tours in the great kahikatea forests south of Fox Glacier. These have aroused tremendous interest in promoting the South-West World Heritage concept and further tours may be organised.

Dave Bamford and Les Clark of Tourism Resource Consultants see the distinction between nature tourism and adventure tourism becoming blurred as adventure companies come to understand the importance of providing nature interpretation.

The two say that in the past interpretation has often been seen as the "icing on the cake" by land managers, but they believe that it must now be accepted as an integral part of management.

Tourism — friend or foe?

If conservationists sometimes feel they are entering an unholy alliance with the tourism industry, their reluctance to snuggle up too close can be understood in the light of statements such as this from a leading tourism industry spokesman:

"Visitors are needed by the industry and national parks, for without them neither would survive. Visitors are their *raison d'être*."

Such utilitarian thinking, that values natural areas only in relation to whether people enjoy them, is anathema to many in the conservation movement who see such areas as having intrinsic worth.

With tourism now the fourth highest foreign exchange earner and the number of overseas tourists coming to New Zealand estimated to be 900,000 by 1990, fears are being raised that tourism could replace logging as our greatest environmental threat.

Certainly it will be a courageous individual or organisation which attempts to stand in the way of any development. In times of high unemployment, the fact that one job is created by every 20 overseas arrivals speaks volumes. Tourism Minister Mike Moore has forecast that by 1990, at least 50,000 new jobs will have been created, 12,600 in the South Island's hotel construction industry alone.

For its part, the tourism industry has declared its intention to respect the environment. When the then-Commissioner for the Environment, Ken Piddington, warned in 1985 that "tourism is the main consumer of environmental quality," his remark was met with a flurry of protest.

Replying, Tourism Council chairman John Milne said that if the word "consumer" meant that tourists looked at and admired the environment, then Mr Piddington was right.

"But if by 'consumer' he meant that tourism is destructive of the environment, then clearly he is wrong. In this sense agriculture, forestry, urbanisation and many other activities consume the natural environment far more than does tourism," Mr Milne contended.

From the vantage point of a tourist operator, Southern Heritage Tours' Mark Hanger believes there is a danger that tourism could spoil areas.

"It seems that it's almost a policy today that tourism is good. It can enhance but it can easily destroy as well.

"I hate to see the numbers game because I prefer to see quality tourism. We must ensure people come away with a greater appreciation of the environment," he says.

He criticises the inadequacy of present tourism management, pointing out that there is inadequate policing of fragile environments, with helicopter overflying all too prevalent.

Development is sometimes a double edged sword, however. For example, if it wasn't for the Remarkables skifield road his clients would not be able to reach one of the most fascinating botanical areas in Otago. The road wasn't without its critics, and still isn't because it defaced the mountainside. Extensive tussock plantings have been made to make it more acceptable.

Dave Bamford and Les Clark, both formerly involved in training Parks and Reserves staff and today consultants in nature tourism, believe that good management should solve most problems. However, they are aware of the dangers of tourists visiting sensitive environments such as offshore islands and limestone caves.

Forest and Bird Conservation Director, Gerry McSweeney, says he came face to face with the havoc that tourism can wreck when this summer he was leading a Venturetreks party to study alpine flowers on the freeze-thaw terraces of Mt Ruapehu. They were rudely interrupted by surveyors and engineers who were planning a doubling of the massive Turoa skifield carpark — well south of the existing carpark and skifields.

"It brought home to me that nothing is sacred, and not even our National Parks are safe from the tourism juggernaut.

"Planning may accommodate more visitors, but above all we must educate people to demand less from the natural environment, to walk instead of drive or fly, use a shuttle bus instead of drive a car.

"We must also learn to cherish some of our lesser known areas rather than demand to be accommodated in our best known," he says.

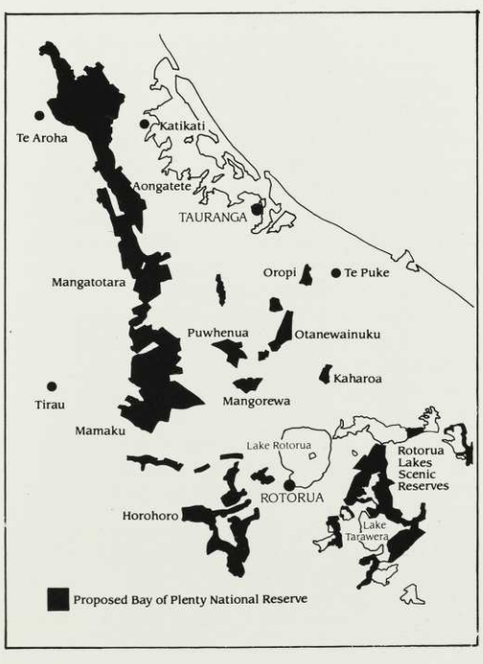
TIME and the FOREST

Bay of Plenty conservationists have been involved in a 15-year battle to gain permanent legal protection for the Kaimai-Mamaku State Forest Park. Here executive councillor Carole Long ***outlines why the forest is so special.***

This has been a long hot summer in the Bay of Plenty. The grass is crisp and brown, and the convoluted skyline of the Kaimais stands clear every evening. Aongatete may carry its morning cap of mist from the Waikato occasionally, but the bog forest on the summit is as dry as it has ever been. The creeks and rivers continue to flow from their source in the forests, slaking the thirst of the ever-widening throat of horticulture, farming and domestic use.

Showing no sign of being satisfied is the thirst of thousands of local people for permanent legal protection of these forests. This is the fifteenth year of the campaign to have the Kaimai-Mamaku forests protected. Society Field Officer Kevin Smith remembers vividly the first meeting in 1972 when Mangatotara was at risk — this was the start of Kevin's involvement in conservation. The most notable battler for the Kaimai-Mamakus is Tauranga's Reg Janes, Distinguished Life Member of the Society, who still plays a most vital role in the campaign by his presentation of the history and values of the Park at Tribunal and committee hearings.

Most Bay of Plenty residents are able to see the skyline of our Forest Park from their homes or as they travel to and from work. In Papamoa and Te Puke the forested hills of Otawa are very close, and recently overseas tourist parties visiting kiwifruit orchards have included the virgin forests of Otanewainuku in their itinerary.



These forests arguably offer the best chance for survival of the kokako, and their richness in plant and bird life is well known. The Kaimai-Mamaku region has been recognised, indeed since the time of Cockayne, as an important part of one of the two most significant botanical transition zones in New Zealand. Major elements of the New Zealand flora (kauri, beech, kamahi, etc.) here mix to form unique combinations of plant cover. The region includes good quality podocarp-hardwood forests, remnants of impressive stands of southern-limit kauri, as well as open stunted stands of northern-limit silver beech at quite moderate elevations. Historically the Park contains areas of great interest, with a long history of use from Maori times to the gold mining and timber milling eras of the late nineteenth and early twentieth centuries.

Mystery to Many

Though the Park covers 40,000 hectares and is 70km in length, it remains an undiscovered mystery to many, as there is no Park Headquarters, and no road signs guide the public into the many tracks and huts available.

An excellent map and track handbook has been produced by the Forest Service. This can be obtained from the local Branches and from the new Department of Conservation office in Tauranga. Local Forest Service recreation officers have run three summer programmes of guided walks in the Park and the response has been staggering.

Thousands of children visit the Park's lodges each year from local primary, intermediate and secondary schools. Parents who are involved as helpers never fail to marvel at the beauty of the bush, rivers and waterfalls, and gain with their children an understanding of the value of such outdoor

Just one of the many projects designed to engender enthusiasm for the protection of the forests was a run to the top of the Kaimais. *Photo: Reg Janes*

experiences in the natural environment. Use of the Park is available to a large population (1.5 million people live within 150km of the Kaimai-Mamaku range). The Park provides a wide variety of activities from short walks to demanding 2-3 day trips.

As development intensifies, the recreational importance of these forests becomes more valuable.

In the 1960s, when huge areas of central North Island forests were lost to forestry companies for conversion to pines, the then Conservator of Forests, Rotorua, promised permanent protection of Mangatotara and Aongatete forests.

However, management plans drafted in 1972 and 1982 each zoned about half the park for conversion to exotics (1972) or indigenous management (1982). Public opposition to such schemes has been strong and effective. It would be hard to assess the number of people involved in the campaign to have the Kaimai-Mamaku forests permanently protected. There have been public walks, a fun-run to the summit, displays, talks, newspaper articles, meetings, a petition, endless letter and submission writing, and presentation of the case for protection to committee after committee.

The 1972 Kaimai Action Group, widened in 1982 to the Kaimai National Park Promotion Council (KNPPC) now encompasses more than 30 conservation and user groups. The sheer physical effort and the hours of time and mental energy devoted to this campaign are impossible to measure, and it says much for the conviction of the Bay of Plenty public that there is no slackening of enthusiasm.

Within the week of 4 to 11 March 1987 a KNPPC deputation visited Wellington to express dissatisfaction with the lack of protection offered by the draft Conservation Bill, and the Planning Tribunal heard over 100 objectors to an application for mining exploration in the Park.

The Kaimai-Mamaku forests provide some of New Zealand's finest habitat for the endangered kokako. *Photo: Hugh Best*

Requirements of the campaign are:

No logging — salvage or otherwise. There is a population boom in the Bay and the more pressured life becomes in urban areas, the more need there is for places of tranquility. A feature of the dead and dying trees, particularly tawa, is the abundance of beautiful fungi and perching plants which grow on them. Old trees are also vital for birds.

No "enhancement" with exotics such as blackwoods. Plantings of kauri already exist in the Aongatete area, and V-blading was done in Whakamarama for plantings of eucalypts and Tasmanian blackwoods. A decision last year by the Advisory Committee to remove the blackwoods is being carried out by Forest Service staff this month. Local conservationists offered to do this work, but the growth of pampas grass and bush lawyer in the V-bladed tracks made the job extremely difficult.

The range is remarkable for its ability to regenerate native forest and the KNPPC meetings left no doubt that Park users were keen to have only native vegetation remain.

No mining. BHP is the latest mining company to apply for gold exploration rights in the Park. Once again the Planning Tribunal will be called to hear local people with widely differing backgrounds plead their case for the principle that the Kaimai-Mamakus be treated as a National Park and all mining activities kept outside Park boundaries.

Botanically, the Kaimai-Mamakus are important for the unique combinations of plants that come together at this point. For example, silver beech reaches its northern limit here and kauri its southern limit. The photo shows regenerating kauri in the eastern Kaimais. *Photo: Reg Janes*

Important Dates in the Kaimai-Mamaku Campaign

In 1972 the Forest Service proposed that the eastern slopes of the Mangatotara State Forest and the north-eastern part of the Katikati State Forest be made available for clearing and pine planting. Negotiations were quickly under way with N.Z. Forest Products on the Mangatotara Forest. A group of Kaimai farmers first became aware of these proposals and spearheaded the public movement to protect the Kaimai forests.

Between 1973 and 1975 public pressure gathered momentum at public meetings with politicians and through a petition signed by more than 15,000 people.

Because National Park status was seen as offering the desired protection, more than 30 local conservation and user groups formed the Kaimai National Park Promotion Council and invited the National Parks and Reserves Authority to inspect the Kaimais. The Authority visited the Kaimais early in 1975 and reported that in the future when regeneration was further advanced the Kaimais would be of National Park quality.

In October 1975 the forest was gazetted a Forest Park and in December an Advisory Committee was appointed. Management plans were produced in 1976 and 1982 and suggestions of salvage logging, kauri thinning and exotic planting were strongly opposed in the 1360 public submissions. Nevertheless these activities proceeded.

Easter 1983 Joint Easter Gathering at Tauranga focussed on Kaimai-Mamaku and featured a dramatic visit to the burnt over forests of Waipari-Kuhatahi valley leased to N.Z. Forest Products. The company have since agreed to reserve the remaining forests in these valleys.

In 1984 the NPRA again visited the Kaimais and recommended that the Kaimai State forests be protected as a National Park or Reserve. Management to that end should not permit any activity which would jeopardise the integrity of the forest.

Late 1984 Labour Government elected on a policy pledge to give permanent legal protection to the Kaimai-Mamaku Forest Park.

The economic value of the Park lies not in the gold which may be in small quantities in the rocks but in the priceless water catchment it provides. The multi-million dollar horticulture industry is totally dependent on natural water supplies during the summer and recognition is slowly dawning that the forests are the key to providing that water. The Tauranga County Council has this month called a special meeting to discuss protection of the watershed.

Legal recognition and protection. Forest Park status gained in 1973 has offered scant assurance of protection because of the continued emphasis on management and inclusion of timber resources in management plans. When it is politically convenient both major parties have promised permanent protection, and Kaimai MP Bruce Townshend has a Private Member's Bill to introduce giving special status to the Kaimai-Mamakus.

Community involvement in management of the Park. Advisory Committees for Forest Parks have been too strongly influenced by the policy of the department administering them. Reading the analysis of the submissions on the 1982 management plan submitted by the Chairman of the Advisory Committee to the Minister of Forests makes this abundantly clear. A Park Board similar to those operating National Parks would be ideal, not the total political and departmental discretion given to formulate policies and management plans and analyse submissions in the Conservation Parks proposal in the draft Bill. The energy and commitment of local people in protecting their forests so far would be well suited to assisting in policy decisions for the Park's future. It is a reflection of the determination of local people and the tenacity of several members of the Forest Park Advisory Committees that not a single tree has been felled in the Park since 1973.

Inclusion of the Mamaku Outliers — Puwhenua, Otanewainuku, Kaharoa, Rotoehu. Forests to the south and east of the gazetted Park must be included as part of the protection package. It is fruitless to defend these forests hectare by hectare. The only definitive statement I have read about Otanewainuku, for instance, is that it is a long-term timber reserve. Wildlife Service studies have proved the value of these outlying forests, which contain record numbers of breeding kokako, kiwi, robin and blue duck. They also serve a most important role in the landscape. The dark green shadow of pine forests has crept far enough, and a checkerboard of kiwifruit and shelter belts covers farmland, turning roads into pale green tunnels. We need the diversity of our forests.

What now

The 1984 National Parks Authority report recommended immediate dedication under the Forests Act of the whole Park, including the outliers of Puwhenua, Oropi, Otanewainuku, Mangorewa and Kaharoa, solely for protection and recreation (similar to Ruahine, Tararua, Haurangi, Lake Sumner and Craigieburn). They acknowledged that even this was insufficient to satisfy the public's demand for complete protection requiring an Act of Parliament for revocation. Therefore the Authority also recommended a general legislative change to the Forests Act.

Now this must be contained in the Conservation Act which is to replace the Forests Act. Instead at the time of writing we have a mish-mash of vague terms and, adding insult to injury, a provision for planting of exotics in ecological areas. To those of us who still fume at the sight of 10m to 20m native trees felled to make room for blackwoods in Rotoehu Forest this is totally unacceptable.

The only solution seems to be to ignore the new legislation and the environmental reorganisation and have the Kaimai-Mamaku forests and all their satellite forests protected under the Reserves Act as a National Reserve, with revocation only by Act of Parliament. We also desperately need incentives to protect private land at least equal to those available to clear private forests.

The chill of autumn matches the chill of dismay felt here at the lack of hope offered in the draft Conservation Bill for the Kaimais.

The mushroom clouds of N.Z. Forest Products burnoffs on Galaxy and Omanawa Roads still deepen the sunsets and fire our determination to keep on fighting. Will this be the last "winter of our discontent"?

Resource material

NPRA Report February 1984 A guide to Kaimai Mamaku Forest Park 1st edition 1983 Fauna Survey Unit Report No. 37, Wildlife Service, by A.J. Saunders

EDITOR'S UPDATE

The Conservation Act which became law on 1April substantially revises the prescriptions for Conservation Parks contained in the earlier Bill criticised in this article. Parks must now be managed so their "natural and historic resources are protected."

This is a marked improvement but still has problems:

* because "natural resources" include **all** plants and animals, protection may inadvertently have been conferred on possums, deer and even exotic blackwoods — all unwanted in the Kaimais.
* The definition of protection still allows for resources' "augmentation, improvement or expansion" so unwanted blackwoods or kauri beyond its geographic limit could still be planted in the Kaimais as provided for in the current management plan.
* the powerless advisory committees have been perpetuated unchanged without the policy formulation role sought by conservation groups.

National Reserve status still remains the most attractive option.

OKARITO — THE BOOK

From her Sumner home overlooking Canterbury's Pegasus Bay, children's authoress Astrid Neumann surveys a world that contrasts markedly with the one she has chosen to write about — the fight to save the forests of Okarito.

On the settled east coast, the Pacific Ocean meets a gently sloping shore; on the West Coast the Tasman Sea's moods are more violent. Not far inland, however, it is all quiet contemplation amid the stately rimu forest.

It was here in the mid-1970s early-1980s that the conservation movement dug its heels in over logging in South Okarito and Waikukupa State Forests, pressing for them to be included in Westland National Park.

This is the story that Astrid Neumann tells in her first book, *Okarito*.

Lying deep in South Westland, between the Southern Alps and the sea, Okarito has been much acclaimed for its scenic beauty, encompassing coastal lagoons and rimu forest.

In 1976 the loggers moved into North Okarito to be confronted by energetic conservation groups who attempted to influence the wider public to their point of view. For the next six years, Okarito figured in many headlines; in 1979 all seemed lost when the Minister of Forests announced that South Okarito was to be opened up for logging.

Undeterred, conservationists fought the decision, until finally in 1981 South Okarito and Waikukupa Forests were added to Westland National Park. At last the park's boundaries ran all the way from the mountains to the sea.

The book had its genesis in a field trip to the West Coast in 1985. Society West Coast Conservation Officer, Kevin Smith, sparked Astrid Neumann's enthusiasm when he led a group to Okarito, and her admiration for his work on the West Coast resulted in her dedicating the book to him.

She feels that in New Zealand there are few, if any books on conservation themes for children.

"There is practically nothing about conservation in New Zealand for children up to the age of 10 to read. I felt there was a gap that needed filling," she says.

Born in Austria, Astrid Neumann arrived in New Zealand at the age of eight. Her mother, Irina Kalnins, was a well known ballet dancer and her father an architect. She herself teaches art at Kingslea Girls School in Christchurch.

Her hope is to produce a further book, this time on Hori Sinclair's wetland at Waipori, south of Dunedin. She considers him a remarkable person whose long running struggle to retain one of the country's most important wetlands would provide an intriguing and instructive tale for children.

Astrid Neumann has generously donated a percentage of the royalties of her book Okarito *to the Royal Forest and Bird Protection Society. We urge members to buy a copy as a means of supporting the Society's work. It can be obtained through the Society's mail order service (see catalogue with this magazine) at the price of $12.00 (inc GST).*

The fate of WESTERN SOUTHLAND FORESTS

Kaka, yellowheads and parakeets will suffer if the Forestry Corporation takes control of Southland's forests reports Gerry McSweeney, Society Conservation Director

Logging of the state-owned beech forests of Western Southland is both uneconomic and environmentally disastrous and should cease once legal commitments are met. That clear message from the Department of Conservation (DoC) was put to the Forestry Corporation during the debate over who should control Western Southland's Dean, Rowallan and Longwood State Forests.

DoC's campaign to protect these forests centres around a strong plea from the Wildlife Service — now part of DoC — which wants "all the remaining virgin forest (including old cutover with a regenerated canopy) excluded from timber production areas" and allocated to the Department of Conservation. These low altitude beech and rimu forests contain nationally important populations of yellowhead, kaka and yellow-crowned parakeet — birds declining and now regarded as threatened. To survive, they need large areas of the most diverse and rich lowland forest types which are the areas most keenly sought by loggers.

Bird surveys in Rowallan by Dr Eric Spurr of the Forest Research Institute have shown that yellowheads disappear completely from logged beech forest and do not return to regenerated forest even 25 years after logging. Like kaka and parakeet, yellowheads confine themselves to mature forests with dead trees. They have recently disappeared from the northern South Island and their last stronghold is lowland forests from near Haast down to Western Southland.

Rowallan forest is being clearfelled in a "beech management" operation to supply logs to mills in nearby Tuatapere and a large volume of chipwood to the Awarua chipmill near Invercargill. Contracts expire on 31 July 1988. Were all the forests managed on a sustained yield basis, only about 15 jobs would be involved in managing and processing. In fact there need be little social impact if logging stops, because a massive volume of pine is coming on stream in this region. Already one Tuatapere mill has chosen to substitute exotic pine to replace part of its beech entitlement.

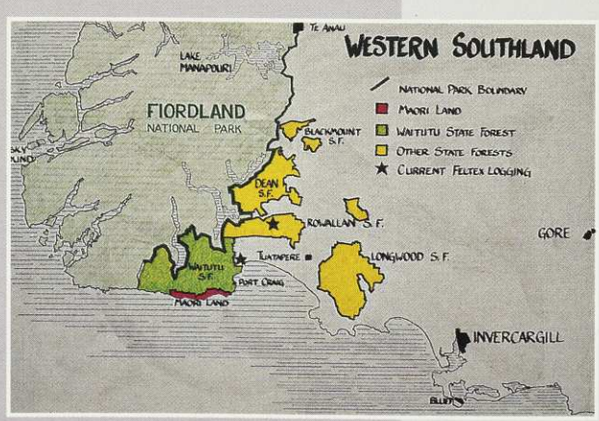
Current logging in Rowallan costs the Forest Service about $1¼ million annually according to a 1986 Joint Campaign on Native Forests study. Hoping for better economic results to justify their land grab, the Forestry Corporation conducted another economic analysis. Their report is still secret but their staff admit it showed the logging to be "economically unattractive". Corporation district manager for Southland, Dennys Guild, admitted in a recent interview that "the operation had not made a profit for the Forest Service", and that under a more efficient corporation it "would never be a money spinner." *(Southland Times* 20/3/87). Nevertheless, Forestry Corporation are still pushing for title to Dean Rowallan and Longwood.

DoC will need all the help we can give it to save these forests. Dean and Rowallan State Forests adjoin mountainous Fiordland National Park and the Waitutu State Forest. Their lowland forests and special wildlife all deserve protection as part of the South-West New Zealand World Heritage Area.

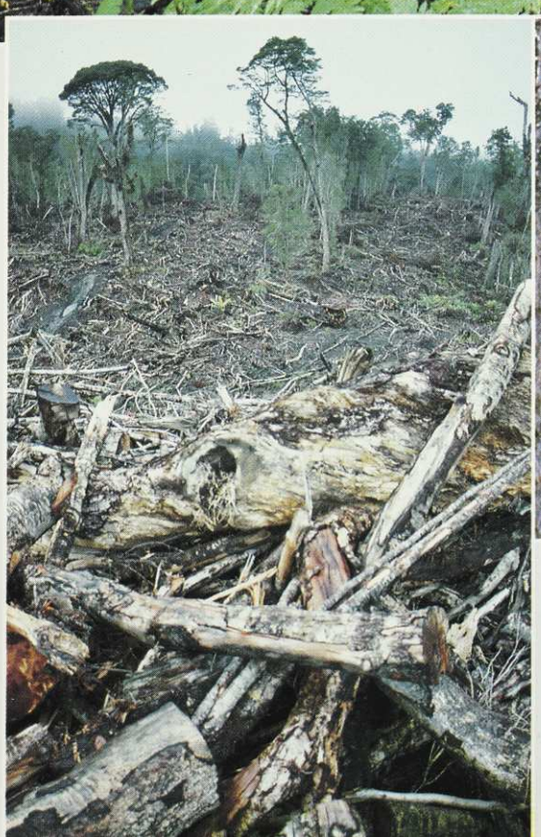
Virgin forest, Rowallan State Forest. Characteristically these forests have short fat rimu scattered through extensive silver beech on rolling marine terraces. *Photo: Gerry McSweeney*

WORLD HERITAGE UNDER THREAT

On Monday 16 March the Government deferred any final decision on future allocation of the Western Southland forests until 31 March 1988. Meanwhile, the forests will remain in Crown ownership although ominously they will be managed by the Forestry Corporation who have been charged with meeting log supply commitments to mills. The remaining forests must be permanently protected in DoC. Only with your support and pressure on the Government over the next 12 months can we make sure this happens.



Western Southland State Forests. Waitutu State Forest is being considered by Government for addition to Fiordland National Park. Dean, Rowallan and Longwood forests all deserve permanent protection. *Courtesy of Native Forests Action Council.*



Above: **Western Southland beech forests are a vital national stronghold of yellowhead (pictured), kaka, and parakeet — all threatened by continued logging.** *Photo: Wildlife Service*

Left: **"Beech management"! Rowallan State Forest. Much of the forest is exported to Japan as chips. The screech of homeless kaka and the chatter of parakeet echoed around this scene of devastation when Graeme Loh and the author visited this site in January 1987.** *Photo: Gerry McSweeney*

Mining Rejected

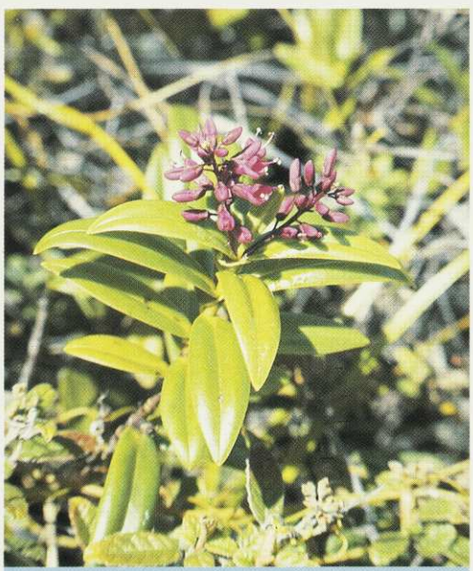
in North Cape botanical gem

by Mark Bellingham, Society Conservation Officer, who calls for an end to a mine which is a blight upon the Far North landscape.

At New Zealand's northernmost tip lies North Cape, a scenic gem and the most important botanical reserve for its size in the country.

The North Cape Scientific Reserve is home to more endemic plants and animals than any equivalent area in New Zealand. Fifteen plants and at least four invertebrates are found only there. Almost all of these are confined to the 175 ha of serpentine rock area in the reserve.

On the nickel and chromium-laden serpentine soils, many plants have adopted strange habits. The North Cape tanekaha has branches that creep across the ground from the main trunk and the endemic karo and *Coprosma* form low straggling bushes. The coastal Astelia grows in small, erect tufts, unlike the normal luxuriant forms on adjacent cliffs, and even the manuka inches along the ground.



The North Cape hebe, *Hebe macrocarpa brevifolia*, in the serpentine plateau heathland. *All photos Mark Bellingham*

Half of the serpentine area is on the 200-metre high cliffs, which soar steeply above the Pacific Ocean. These deeply eroded bluffs support North Cape's three rarest endemic plants, *Pittosporum michiei*, North Cape karo and the North Cape subspecies of *Coprosma spathulata*. It appears that the cliffs have been a refuge for plants and animals when fire has swept across North Cape over the past 500 years.

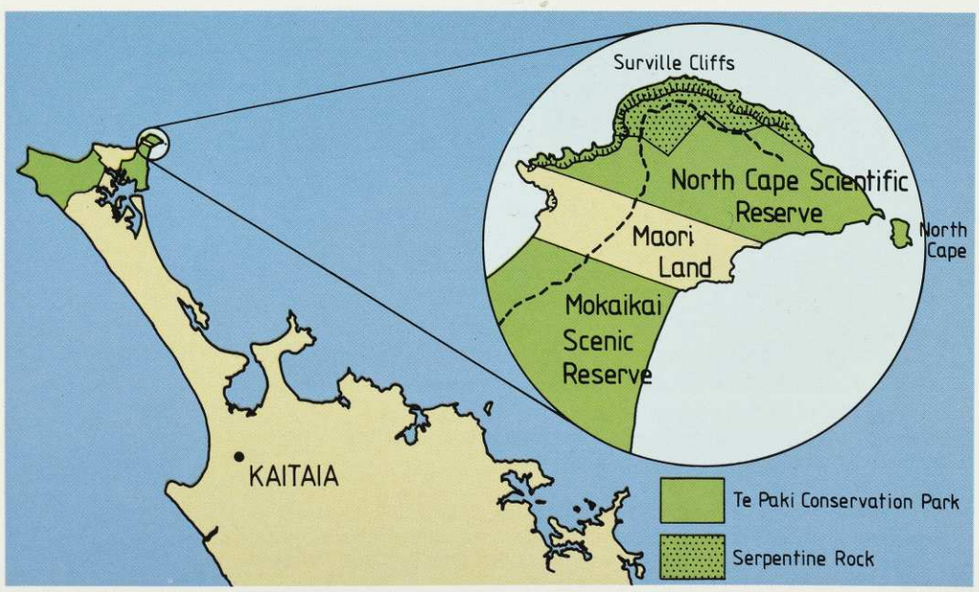
The serpentine plateau and the remainder of the reserve are covered in a mosaic of heathland, scrub and a few forest remnants. Many endemic North Cape plants and the threatened North Cape flax snail are found on this heathland, although intensive burning across Te Paki and North Cape by gum diggers and graziers has reduced some of these special plants and animals to cliff refuges.

Since 1964, 683 ha of North Cape has been a reserve, and once fire control began a subtle but active regeneration has spread across the serpentine plateau, with the main populations of some plants now expanding on to the plateau heathland. The fire tolerant kumarahou and prostrate manuka have now been joined by tanekaha, Hebe, thick-leaved hangehange and the glossy-leaved tauhinu.

But as our knowledge of the special significance of North Cape has grown, so has the serpentine mine which has been worked since the 1960s.

At first only small amounts of serpentine — used as a magnesium fertiliser and for preventing ryegrass staggers — were taken, but during the 1980s the mine was expanded and a huge stockpile built up, in the hope that this would precipitate a further mining licence. The mining company has a network of roads that snake through the scientific reserve and the full length of the adjoining Mokaikai Scenic Reserve.

The North Cape *Haloragis*, common in the windswept herbfield at the top of Surville Cliffs.



Across this most remote part of the Far North the mine site and the road have opened a 25 km eroding scar. Gully erosion is up to 5 metres deep on cleared land beside the serpentine pit; if this is not controlled it could threaten a substantial area of the serpentine plateau community.

The road also encourages unauthorised entry to the scientific reserve, creating problems for the reserve rangers and owners of the adjacent Maori lands.

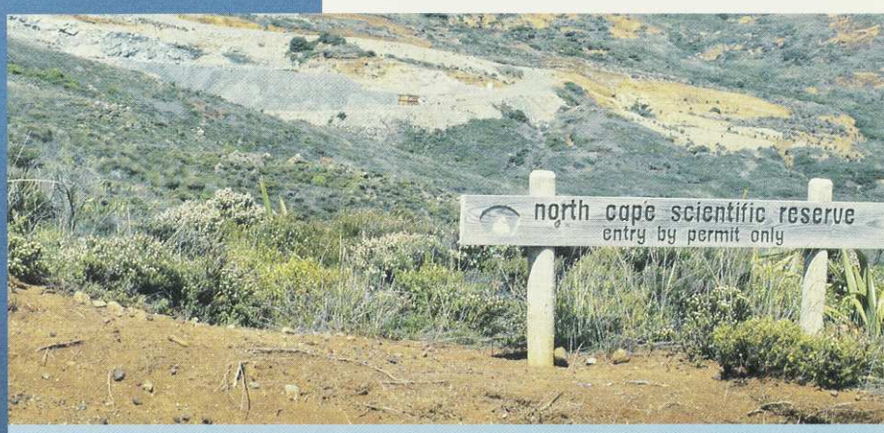
Both mining and casual visitors greatly increase the risk of fires in the serpentine heathland, and further human activity may

New Zealand's northernmost point, the Surville Cliffs, form part of a reserve rated as the most important botanical reserve for its size in the country. The integrity of this reserve is threatened by mining.

No Mining at North Cape

Following a report from Forest and Bird and a recommendation from the National Parks and Reserves Authority stating there was "lack of a demonstrated need for serpentine", Lands Minister Koro Wetere recently declined a new licence for North Cape. Apparently the mining company has stockpiled 23,000 tonnes over the past 8 years — and shipped none out! Although this mining licence has been declined, North Cape is still open to further mining applications.

There is now a *prima facie* case for the Ministers of Energy, Lands and conservation to implement Section 24 of the Mining Act to set apart permanently the North Cape Scientific Reserve from mining.



The company which mined for serpentine within the North Cape Scientific Reserve used to have a permit for entering the reserve. Casual visitors who take only photographs and leave only footprints may find it more difficult to enter the reserve than a mining company which desecrates the landscape.

lead to a resurgence in the rat population. High rat numbers decimated the flax snail population during a previous mining licence and it has only just recovered following a five-year rat control programme by the Wildlife Service.

There is no good reason to mine the serpentine. Agricultural research has shown that serpentine has a rather low efficiency as a magnesium fertiliser and that it is totally ineffective in controlling ryegrass staggers. Furthermore, asbestos in the serpentine rock poses a potential health hazard to quarry and fertiliser workers.

The mining and the roads threaten more than just the plants and animals; they are an affront to the integrity of this special reserve and debase the spiritual significance of North Cape and the remote character of this part of the proposed Te Paki National Reserve.

HELP SAVE THIS SNAIL

On a small hill near Cape Reinga there lives a very special and rare animal. Maori know it as pupuharakeke or flax snail. It is probably one of the rarest snails in the world and is in danger of dying out completely.

These snails are only found in small pockets of bush around the northern tip of New Zealand. The largest colony of pupuharakeke alive are found in the small patch of bush on Maungapiko Hill.

Old people can remember when the entire hill was covered in bush and the pupuharakeke were everywhere. Today the bush canopy has been opened up for grazing, and thrushes and blackbirds prey on the exposed young snails.

Pupuharakeke hide in thick moist leaf litter during the day and come out at night to eat the leaves that have fallen off native trees. Unfortunately sheep and cattle like to eat the same plants as the pupuharakeke. Without the leaves of their favourite trees the snails starve to death. This is what has been happening at Maungapiko.

The only solution that will save these rare snails is to fence off the small patch of bush from the wild stock and to replant some of the native trees.

Forest and Bird is supporting the efforts of the Save our Snails Society and the Maori land owners, the Muriwhenua Incorporation, to fence off the Maungapiko Hill bush to protect these unique snails.

We need your help to save the snails. $4000 is needed for the fence. Please send your donations to:

Snail Appeal
Royal Forest and Bird Protection Society
P.O. Box 631
WELLINGTON

All donations to the Royal Forest and Bird Protection Society are tax deductible.

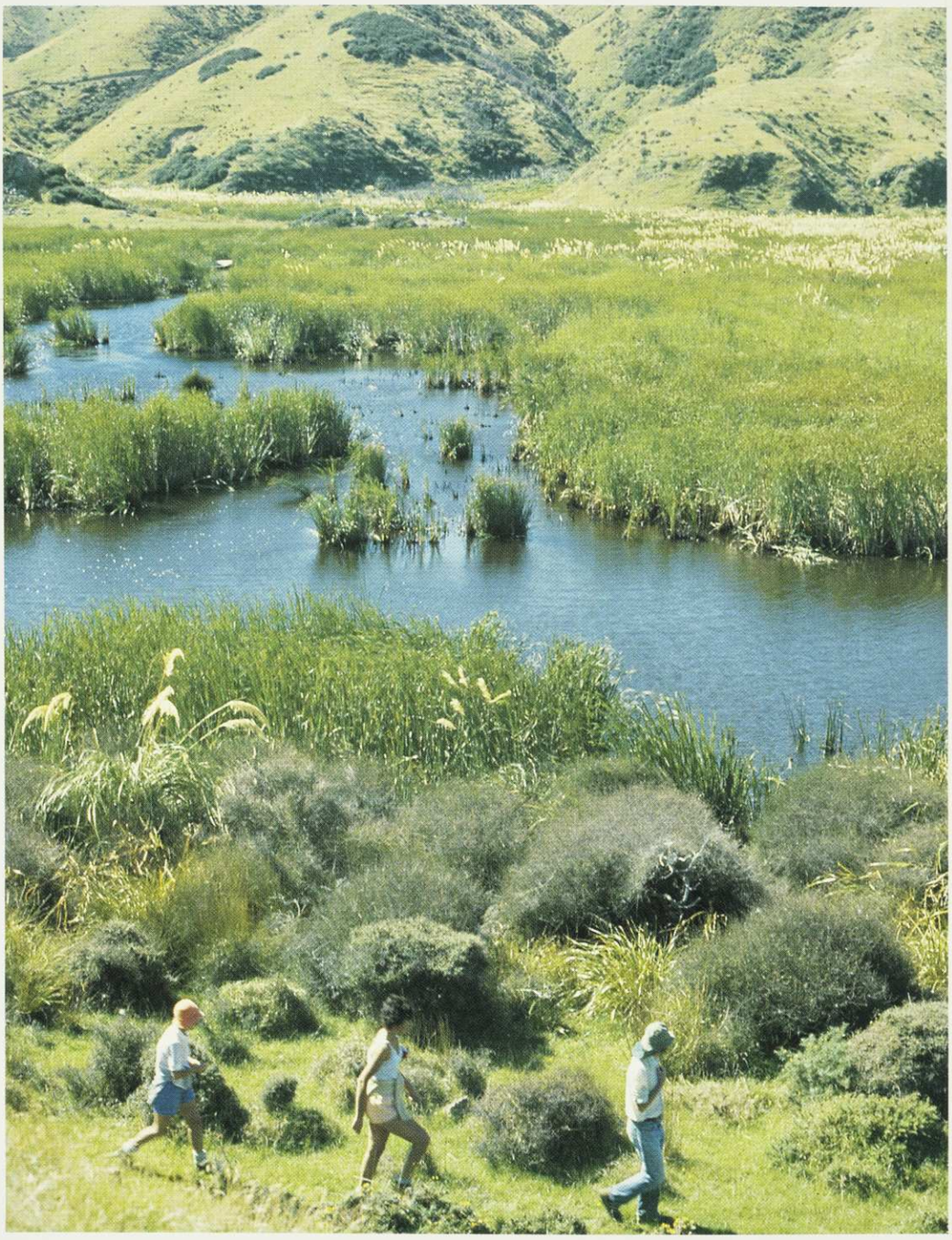
Lower Hutt THE STORY OF AN URBAN BRANCH

by Maureen Burgess, Chairperson, Lower Hutt Branch

When one looks back into the history of our National Society, one discovers that the Lower Hutt Branch is not very old. In the middle of 1975, two new sections were formed in the Wellington area: Lower Hutt and Upper Hutt. Although Upper Hutt gained Branch status the next year, it was not until November 1977 that Lower Hutt became a Branch of the Royal Forest and Bird Protection Society.

We are an urban Branch, with membership covering the valley floor (the city of Lower Hutt and the borough of Petone), the large valley suburb of Stokes Valley, the suburbs of the western hills, the Eastbourne coast, and the city 'over the hill' — Wainuiomata. Publicity about the aims and the work of the Society, coupled with displays highlighting the activities of our Branch appear to have worked well for us in our desire to increase membership. In the past 11 years our membership has increased from the initial 365 members to almost 3000.

Without any overall design the composition of the Lower Hutt Branch Committee has been spread geographically and in relation to age. Women have always played important roles, but it was not until 1985 that the Branch elected its first female chairperson. The number of Committee members is usually 16, but we place great emphasis on the work of the sub-committees. We try to include some non-Committee members on our sub-Committees so that we can introduce new people to our activities.



A two hour walk from either Eastbourne or the Wainuiomata coast will take you to the two Kohanga Lakes at the mouth of Gollans Valley. Spotless crake and pukeko breed here. Wetlands of their quality are not found elsewhere in Wellington, but they are under possible threat should a land-based sewage treatment plant be placed nearby. *Photo: Ron Freeston*

Active branch

Our location can only partly serve to explain why Lower Hutt Branch is so active in trips, tree-planting, submission writing, and participating in local issues. To be an active Branch, you need active members, and we have always had a strong nucleus ready to both initiate new projects and to provide continued support for existing ones. Our location is really a bonus — we are surrounded by potential trips such as coastal walks, bush walks, high altitude trips, and trips to nearby islands.

The decision by the Wellington area branches in 1979 to put out a combined programme every six months, means that each of our members can choose from about 300 trips each year. We try to get our own trips and monthly meetings well advertised by means of a leaflet entitled "What's on this month" which we distribute to all local libraries and the news media. Our trips are not exclusively for members of Forest and Bird and we find that a lot of people who come on a trip with us then go on to join the Society. To help people decide whether the trip is suitable for them, each trip is classified by the Programme sub-Committee as: Easy, Family, Medium, Strenuous or Adventure.

The essence of Lower Hutt Branch is its openness to ideas. If anybody wants to do something, they are encouraged to do it. This has led to our involvement in many exciting campaigns, some of the most recent being public education by Stan Butcher about the threat of Old Man's Beard (*Clematis vitalba*), protection for pingao grass on the beaches at Petone and Eastbourne, the fight to prevent a detention dam from being constructed in bush at the Korokoro forks, and the protection of the Gollan's Valley wetlands from the proposed sewage treatment plant.

Each of our Branch Chairpersons has introduced a new facet to our activities. Dave Carrad's aim was to involve people who would otherwise be unable to participate. He initiated our Veterans and Disabled Persons Picnic which has now become an annual event at the Kaitoke Waterworks Reserve. The highlight for many of them is the billy-tea, and even those in wheelchairs are able to experience the pleasures of being in the bush. Because of David's involvement with Birthright, we also invite some of the local solo parent families on our trips.

Organised opposition

Through the example of Russell Bell, our Branch has become very vocal in local and national issues. We have had many struggles in our area with developers wanting to do things that we opposed, but it was not until Russell wrote our Branch's submission

Reef heron, Hutt Estuary. This bird is seldom noticed because it feeds along the rocky banks of the Hutt River rather than in the mudflat near the mouth of the river.

against Fletcher Development's proposal to subdivide and sell off the top part of Stokes Valley in 1981, that we really learned about organised opposition. This struggle involved a hearing at which Russell spoke, and the result was that the proposal did not go ahead and that Hutt County Council bought most of the land for reserve purposes.

We no longer stand back, but put in submissions or comments about all schemes or management plans where we think it is important for us to have input. Late last year our Conservation sub-Committee was almost swamped beneath a deluge of management plans for local reserves which all came up for review.

When the time has seemed right, we have organised public meetings. Of these, the evening with Sir Edmond Hillary in 1980 and the evening entitled "Which political party will save the forests?" prior to the 1984 General Election were so well supported that it was 'standing room only'. Our support of Conservation Week has always been strong, but it will be difficult to reach the standard set in 1983 when we had a week-long display in a hall in central Lower Hutt. Anyone who was there will remember the beautiful tie-dyed silk waterfall which was the centre of the display for "Water Means Life".

Veterans' and Disabled Person's picnic, 1986. With the "experts" providing litres of billy tea and the birds singing in the surrounding bush, even the blind or immobile have an enjoyable day up at Kaitoke. *Photo: Jack Richards*

Many hours of our time have been spent on issues concerning the Hutt River estuary and the Petone foreshore. For more than two years a small group of members under Stan Butcher's leadership did regular bird surveys at the estuary and the rivermouth in order to justify our claim that the mudflat there should be given protection as a wildlife reserve. At long last the Wellington Harbour has acknowledged the wildlife values of the estuary, which has the only mudflat in Wellington Harbour. Our next aim is to get the Harbour Board's reclamation designation for the mudflat lifted. Proposals for boat launching ramps on the foreshore and the management of the East Petone Foreshore Reserve are problems that we tackle month after month, and we will be working on these well into the 1980s. . .

My particular interests have been in forming close liaison with the Parks and Reserves Departments of our local Councils, and with the local news media. This has meant a good supply of plants for local projects. We are invited to have input into local reserve proposals, and local papers give our efforts and opinions good coverage. We now tend to initiate projects, rather than wait to respond to initiatives from others. This has proved to be successful and in the case of our 'Bushfires' leaflet distributed last November, led to the Lower Hutt City Council's Head of Parks and Reserves offer to sponsor the printing costs. The pamphlet encourages people to safeguard gorse as a nursery plant rather than burn it.

An article cannot really do justice to all the things that Lower Hutt Branch has been involved with in the last eleven years. Perhaps I will simply extend a warm welcome to you to call on us when you are in Wellington and share in some of our activities. Some of you will have this opportunity when you come to our Summer Camp-out in January 1988. . . see you there.

Summer Camp

The Lower Hutt branch summer camp out is to be held at the Boys Brigade campsite, Wainuiomata, between January 5–14, 1988. For $5 per head per night members and their families can camp out on this 240-ha site, with ample space for talks and meetings. Local branches will host an interesting programme of day trips and evening talks. Members will be able to select the period over which they intend to stay at the camp.

We hope family groups from all over the country will be able to share some of the summer activities in the Wellington region — there will be room for caravans, camper vans and tents.

Those interested in attending should send a stamped, self-addressed envelope to the Secretary, Lower Hutt Branch, PO Box 31097, Lower Hutt.

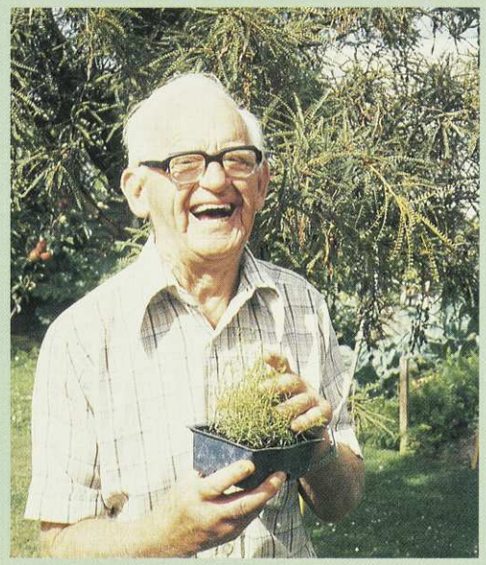
JACK'S ISLAND

To the Maori it was Matiu, named by the great explorer Kupe. The first European settlers named it Somes Island after the deputy governor of the New Zealand Land Company. We think of it as Jack's Island because of the way in which Jack Whiteford has devoted himself to his dream.

"I have a dream, that one day you'll be able to drive into Wellington along the Hutt Road and look out onto a dark green island," Jack says.

Somes Island has long been a place of refuge. Long ago it lost all its bush cover, and the local Maori used it as a refuge from invading tribes. During the days of European settlement, it was a quarantine island and the memorial on the island testifies to the people who died before landing on the mainland. Later it was used to intern aliens and New Zealanders of both German and Italian extraction during both WWI and WWII. Since the 1920s the island has been used only for the quarantine of animals being brought into New Zealand.

In the last seven years, Jack has supervised the planting of over 13,000 native trees on the windswept slopes of Somes Island at almost no cost to the branch, using local branch members as planters. This task, each tree having a weed-suppressing mat pegged to the ground and a colour-coded stake, would be enough to exhaust someone even half of Jack's 81 years.



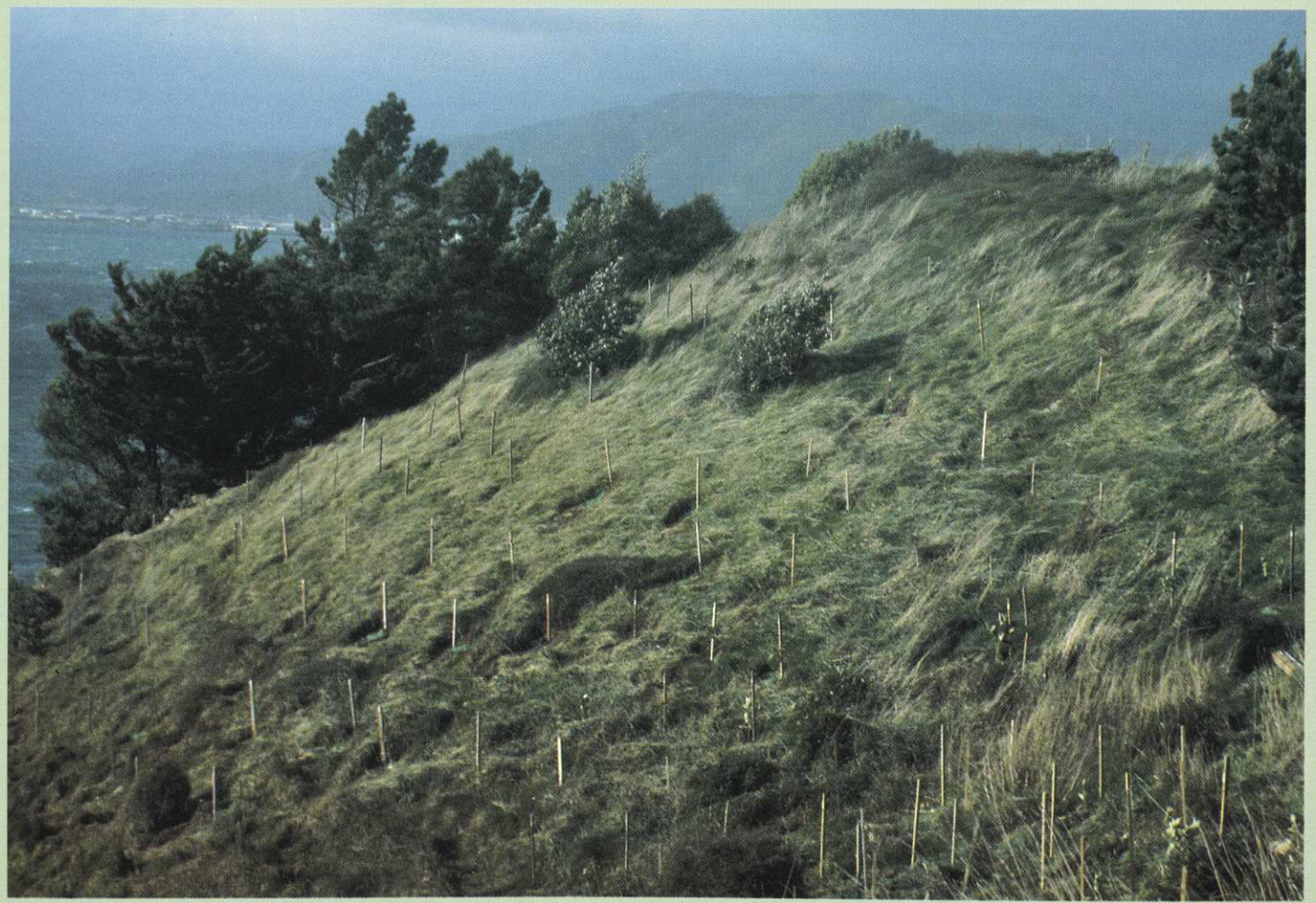
Above: **81-year-old Jack Whiteford has been the driving force behind a project to clothe Somes Island — in the middle of Wellington Harbour — with bush.** *Photo: Tony Burgess*

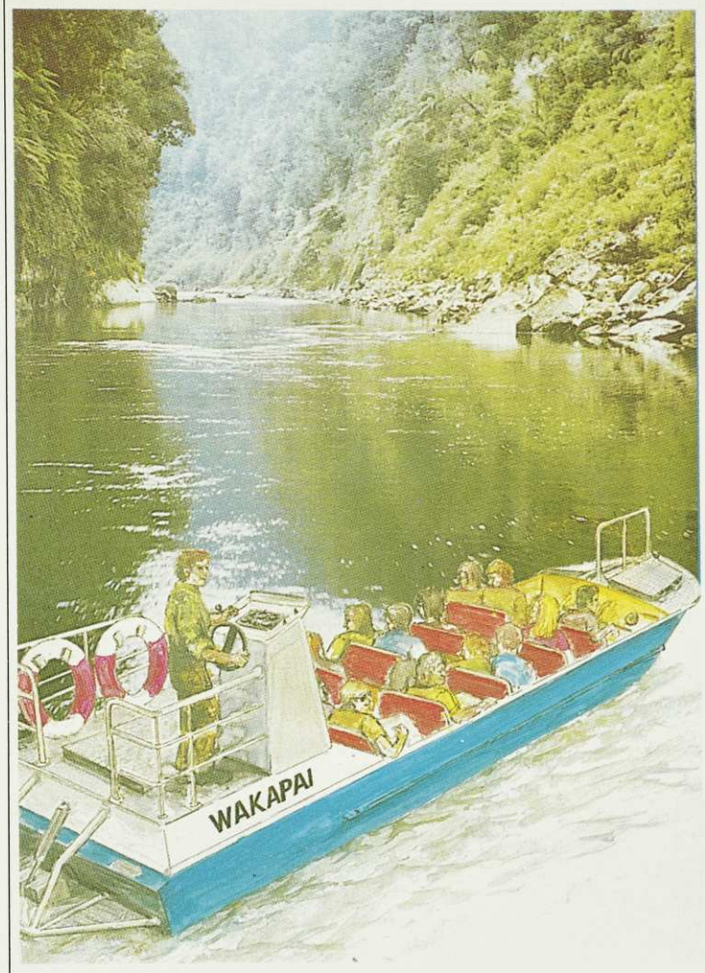
Below: **The north-west side of Somes Island on a blustery northerly day. In the seven years since the programme began, more than 13,000 trees have been planted.** *Photo: Tony Burgess*

Jack's "gang", mainly retired folk, make regular trips to Somes Island to look after the trees that have been planted, and to prepare for the three annual winter planting days.

He describes a number of micro-climates on the island, which have enabled us to find a suitable place to plant even the most tender of local native plants. Those of us who have been tree-planting on Somes Island are amazed at the quality of the soil there, which Jack attributes to "lots of bird droppings". When you see how many black-backed gulls roost there, his statement makes sense. The plants which are coping best with the salt and winds are taupata, ngaio, hebe, karo, flax and senecio. Jack's project for 1987 is to get manuka and kanuka growing there, too.

At different times people eye Somes Island and we hear suggestions that there could be a casino there, or a major tourist attraction. But as long as it is used as a quarantine station, the birds which nest on its rocky shores are protected. There are no longer tuatara on the island, but there are several species of gecko and skink. It has no possums but unfortunately rats were accidentally introduced in the 1960s. And what of the island's future? "There's rats we'd like to be rid of, says Jack, "and just think what endangered birds could be introduced onto a rat-free bush-covered island. . ."





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Adventure holidays available in the world. Whether you are keen on highly active holidays to very far away places, or prefer something easy going but interesting, there is sure to be something in this for you.

The exotic destinations are vast in number but do include Exploring in Ecuador, Hiking in Greenland, Sea Kayaking in Fiji, or Camel Trekking in the Sahara.

We know from people who booked last year that the Bicycle Tour in China is both popular and a simply wonderful trip.

At Venturetreks we have been putting together special interest and adventure holidays for over fifteen years. In our opinion this collection of holiday options is quite superb and we totally endorse the excellent organisational skills of the company behind them.

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YES please reserve my free 60 page colour book, "Worldwide Expeditions 1987/88" I understand this will be available shortly and obligates me in no way.

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MH1/A

Tracks

Your response to the competition in our recent journals has been tremendous, with 70 entries to the "Save-Us" quiz and crossword and all of them correct! Although we could only draw one name out of the hat for first prize you are clearly all winners in the field of nature interpretation. Keep up the good work!

Congratulations to Howard Smith of Marton for winning the *Readers Digest Book of Birds*. Special tribute must to to the Mangawhai Beach School for their great efforts and to Olivia King for sending in the photo (top right) of the models made by her class during their tuatara project.

This month we take a look at our only native land mammals — bats, whose Maori name is Pekapeka. We have also included a game similar to snakes and ladders.

I hope you continue to respond to and enjoy these pages.

Terry Fitzgibbon

Batty about bats

Photo by courtesy of Wildlife Service

Bats are curious animals. You can tell how humans feel about them by the way they call crazy people "batty" or say that they have "bats in their belfry".

People's opinions about New Zealand bats have, unfortunately, been influenced by overseas experience, where bats are not always popular and seem to be often associated with haunted places. That's probably because they like dark and dank homes.

Your chances of seeing the two species of New Zealand native bat are slim — you will have to visit mature forests where there are old hollow trees or caves in which the bats roost by day. Only the size of a mouse, the two kinds of bats in New Zealand are the short-tailed and long-tailed bat. They are also the only native New Zealand mammals.

At dusk the bats can be seen flying in the darkening sky catching insects such as moths which are often scooped up in their wings or tail webbing. Flying insects form their staple diet.

The long-tailed bat hunts only in the air. However, its short-tailed cousin can also be seen feeding on fruit and flowers while crawling "on all fours" over tree trunks and branches. It can do this because it has developed a way of folding its wings to allow it to move about. This unique feature, and a small tail, help tell the two species apart.

The bats are covered with short, reddish brown fur. Poor eyesight means they mostly rely on their large ears — operating like radar beacons — to "see". Their ears collect the echoes from their high pitched squeaks which bounce off objects like trees. This enables them to navigate in the dark.

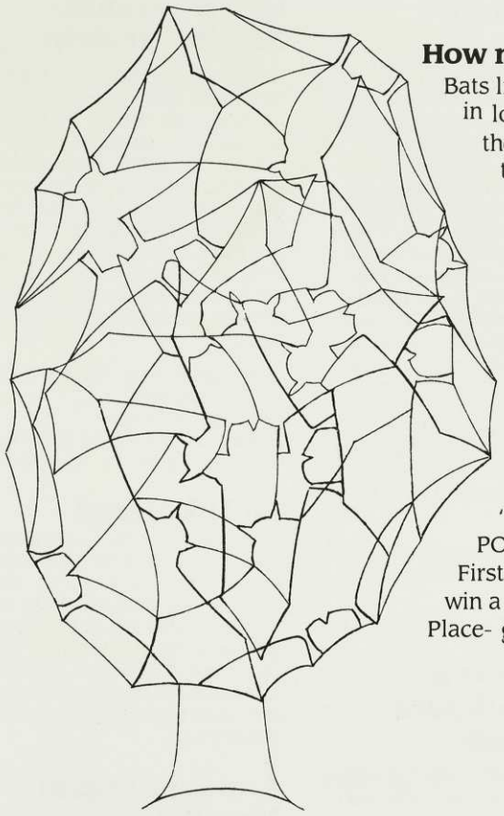
The wingspan of both bats is between 25 to 30cm. When coming in to rest, bats fly in slowly, land and hang on with toes and thumbs, then turn and hang upside down by their hind toes. They are very sociable and huddle together for warmth. Long-tailed bats hibernate for short periods in winter and breed in the summer. A milk-fed young bat can sometimes be seen clinging to its mother's back for several weeks — even when she's flying.

Our short-tailed bat is very rare. It plays host to the remarkable wingless bat fly which feeds solely on deposits of bat guano within the bat's tree roost. Relatively new to science, this bat fly is endangered, like the short-tailed bat itself. They are rare because their lowland forest homes have been destroyed and chemical controls have reduced their insect food supply.

Today people feel better about bats then they used to. In 1874 a large colony of long-tailed bats was driven out of Geraldine's limestone caves by the blasting of a mining company. They then settled in to the belfry tower of the All Angels Church in Geraldine where they stayed for two weeks, much to the horror of the local community, before disappearing forever.

Department of Conservation staff who look after our historic places are now breeding bats so that they can be released from the Geraldine church every year. John Daniels, who is in charge of the operation, believes they will not only attract visitors to the recently restored church, but also help in establishing bat colonies. Surely not a batty idea?

PUZZLE PAGE



How many bats in the bat tree?

Bats live in caves and hollow old trees in lowland forests. Can you count the number of bats hidden in this big tree?

Send your entries to:

"Tracks Competition",
PO Box 7115, Whangarei.
First name drawn from the hat will win a book about Little Barrier Island.
Place- getters will receive posters.

D	T	A	B	A	T	O
H	U	I	A	K	E	W
F	A	N	T	A	I	L
T	T	K	N	M	A	A
R	A	T	A	O	O	E
O	R	K	E	A	C	T
K	A	M	A	H	I	K

Word scramble

How many names of birds, animals, or trees can you find in this puzzle? The words can be read in any of these directions

12 words = good
18 words = excellent

If you would like to buy a large (A3) printed version on stiff card of this game, write to "Logs and Ladders", PO Box 631, Wellington, enclosing $3 (includes post and packaging).

RF&BPS 6 Day South Westland Adventure Tours

To follow up our sellout March tours to the South-West, two more are being offered.

Week 1: July 6-11

Week 2: July 20-25

. . . a holiday of a lifetime in pristine South Westland with experienced guide, RF&BPS Conservation Officer Kevin Smith

. . . tours during winter, the most settled period of the year in the South-West

. . . these non-profit tours are organised by Forest and Bird to show members the heart of our proposed South-West World Heritage area — the key conservation issue for 1987

. . . discover kahikatea forests, glaciers, flax swamps, sea coast seals and penguins through gentle walks for all ages

. . . all inclusive costs for transport, guide, quality food, motel accommodation, commemorative booklet.

$350 ex Hokitika, $750 ex Auckland and $550 ex Wellington (return airfares to Hokitika and GST inc).

Write for further details to Kevin Smith, PO Box 57, Harihari, South Westland. Ph: Harihari 33-090.

A New Era Begins

The launching of the new Conservation Department on 1 April marks a new era for New Zealand's conservation movement. The Society's warmest congratulations are extended to Ken Piddington and all his staff in this new endeavour. They can count on our support in their efforts to protect New Zealand's heritage.

It is also an appropriate time to acknowledge the major contribution made to heritage protection by the outgoing departments: Lands and Survey who developed and managed our prestigious National Park and Reserve network; the Forest Service who developed a fine network of forest parks and ecological reserves and recreational facilities throughout the country. Our conflicts with both these departments were inevitable because of their dual protection/production role but we always respected and appreciated their efforts in heritage protection.

Above all we should acknowledge the passing of the New Zealand Wildlife Service. No other government agency has been closer or more supportive to our Society. Their endangered species work, survey work and habitat protection activities are legend. Hopefully their effectiveness will now be enhanced because in DoC they will have control over much habitat as well as wildlife species. Hopefully too, DoC will develop the same unity and conservation commitment that was always a feature of the Wildlife Service.

RF & BPS Northern Conservation Officer

RF & BPS is seeking an enthusiastic, self-motivated person for the position of Northern Conservation Officer. The position is based in the Bay of Plenty-Waikato. As well as working with our branches in the upper North Island, this Conservation Officer will focus on private forest protection, liason with Maori people on conservation issues on Maori land, coastal zone conservation and threatened wildlife work. Biological qualifications, field ecology, speaking skills, an ability to work with people and government agencies and to work without close supervision all mean this position would best suit an experienced person committed to protection of our nature heritage.

For further application details write to the Conservation Director, RF & BPS, Box 631, Wellington.

Help Us Save a Superb Kaikoura Coast Forest

FOREST AND BIRD NEED $8,000 in donations from members for our share in protecting as a scenic reserve the magnificent 600 hectare Ote Makura bush at Goose Bay on Marlborough's scenic Kaikoura Coast. The beech, matai and totara forest contains robin, pigeon, bellbird, falcon, creeper and tui.

Half the initial $16,000 required has already been generously donated by members but we need your urgent help to raise the balance.

Send donations to RF & BPS Kaikoura Bush Appeal, Box 631, Wellington. Donations over $5.00 are tax deductible and will be receipted.

Lepperton Bush in North Taranaki Needs Our Help

North Taranaki Branch are aiming to raise $12,000 to secure a 4.2 ha. bush area behind the Lepperton railway station. Although small, this bush is a remnant of the magnificent coastal forests that once covered the dairy farmland of the Taranaki ring plain. The bush includes pukatea, maire, kohekohe, kahikatea and tawa. If the fundraising is successful it will become our first Society reserve in Taranaki.

Send donations to RF & BPS Taranaki Bush Appeal, Box 631, Wellington. Donations over $5.00 are tax deductible and will be receipted.

Mt Hikurangi

It has been bought to our attention that the photo of the East Cape's Mt Hikurangi on pages 12–13 of the February magazine was reversed. In that article we also neglected to mention the fact that the writer, Ron Adams, has a masters degree in zoology and is Head of Trident High School's Science Department.

Annual General Meeting

The Annual 63rd General Meeting of the Society will be held on 13th June 1987 at the Shaw Saville Lodge, Kilbirnie, Wellington, at 8.30 am. This will be followed by the National Council Meeting. The Annual Report for 1987 is enclosed with this journal.

SOCIETY'S LODGES AND HOUSES

Bushy Park Lodge

Kai Iwi, 24km north of Wanganui on sealed road.

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

Accommodation: for 15 in six bedrooms, single and double beds, electric blankets, heater and vanity units. Sleeps 24 with mattresses. Bedding, linen and towels supplied. Showers, drying cupboard, kitchen with electric stoves, refrigerator, deep freeze, cutlery and crockery. Bring own rations. Milk may be ordered.

Fees: (House Guests) Members $20 single, $25 double. Non-members $25 single, $30 double. Children 6-12 $8. (Day Visitors) All adults $2, children 5-15 $1, Family $3 or $5. Closed to day visitors but not House Guests Mon & Tues except holiday periods.

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. $4 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.

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

No animals or pets are allowed in the lodge or the National Park.

There is no key at the lodge, but one will be posted ten days before occupancy. No member may occupy the lodge without first booking through Head Office, Wellington.

Tautuku Lodge, Coastal Otago

Tautuku Highway 92, South East Otago. Situated on the Royal Forest and Bird Protection Society's 550ha Lenz Reserve 32km south of Owaka. In a bush setting and with 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).

Special Pre-Publication Offer

NEW ZEALAND'S NATURE HERITAGE

Royal Forest and Bird Protection Society 1988 Calendar

Forest and Bird's 1988 calendar highlights distinctive native species and their habitats throughout New Zealand – from the golden sedge plant pingao, the Moawhango North Island tussock and associated rare plants, kauri forest and our delightful songster the kokako, to blue duck and giant snails.

Similar in format to our beautiful World Heritage calendar, the 1988 calendar will feature a large photograph accompanied by a smaller detail picture.

Help us to protect what remains. Our beautiful 1988 calendar will sell at the pre-publication discount of $9.95 (incl GST and postage).

ORDER FORM

Please send me . . . . . calendars at the Discount price of **$9.95** (incl GST and postage). Direct to a nominated overseas address by surface mail: **$13.00. Offer ends August 1, 1987.**

Name .....

Address .....

.....

Send Cheque or postal order (Payable to RF & BPS)
NZ Nature Heritage Calendar
PO Box 631
Wellington

Please note – Publication date is not until August.

Books Received

Beyond the Roaring Forties, *by Conon Fraser ($59.95 Government Printer)*

This is the most comprehensive book yet on New Zealand's subantarctic islands. The emphasis of this attractive volume is on man's impact over the past 200 years. A lucid text, peppered with anecdotes from explorers, scientists and adventurers, keeps the reader's interest throughout.

Little Barrier Island, *by Ronald Cometti ($33.00, Hodder and Stoughton)*

For those who haven't had the privilege of visiting Little Barrier Island, Cometti's detailed paintings and colourful writing transposes the reader to this special wildlife sanctuary. The text is full of information on the island, and offers a different perspective from that of the non-artist. Just one example — while patiently painting Cometti records breeding brown teal, a sighting missed by other wildlife observers who have traditionally headed for the ridges looking for cats, petrels or now kakapo. The author draws attention to the possible problems caused by continued farming on the island (for the ranger's food supply) and calls for its cessation.

Which Pakeha Ate the Last Moa?, *by Rhys Richards ($12.00, Paremata Press)*

The thesis of this intriguingly titled book is that moa may have still been living as late as the mid 19th century. Entertainingly written and well researched, the book's publication reflects an increasing interest in the subject of moa.

Golden Bay Walks, Buller Walks *by Derek Shaw ($9.95 Nikau Press, Box 602, Nelson)*

To many keen walkers, Golden Bay is perhaps best known for being between two tracks — the Heaphy Track and the Coastal Track in Abel Tasman National Park. However, as this well produced book shows, there are a great variety of other fascinating places in the region. Similar in format, *Buller Walks* covers 50 walks in the Buller, from Karamea down to Punakaiki. Illus with colour photos and drawings.

Wildflowers of Central Otago, *by Peter Johnson ($33.95, John McIndoe)*

An excellent book for all those who delight in wildflowers. This well illustrated guide would be suitable for the much of the eastern South Island and is a must for those exploring Central Otago. Johnson follows the wildflowerrs through the seasons, grouping them in a way that the lay person and botanist can understand. If only all our botanists could write half as well.

The New Zealand Protected Natural Areas Programme: A Scientific Focus, *edited by G C Kelly and G N Park ($18.70, DSIR).*

Hailed in the early 1980s as the "most important conservation initiative of the 80s", the PNA programme has yet to receive the political, and therefore financial commitment, that it deserves. This report outlines the programme's objectives and summarises the results of four pilot studies carried out. The authors draw a telling contrast between the $1059 million estimated to be needed for New Zealand's defence in 1986–87 with the $30 million needed "to budget for defending the New Zealand countryside against real threat."

THIS WETA NEEDS PROTECTION

Photo by courtesy of Wildlife Service

SO DO YOU!

Protection!
You need it just as much as the unique Mercury Island giant weta. However, your protection comes in the form of future financial security.
With National Provident Fund, that's exactly what you get.
As New Zealand's largest Superannuation Fund, we can start you on an investment plan now, that will provide you with a sizeable, supplementary income in the future. What's more, it's fully guaranteed by the Government.
National Provident Fund. We don't make excessive claims or promise to turn you into a millionaire overnight. What we can do is make you very comfortable in retirement.
And that's just the protection you need.

NATIONAL PROVIDENT FUND

- Annual Tax Saving on an income of $15,000 up to $437. At $30,000, save up to $631, etc.
- Government guaranteed security on an investment in a $2 billion plus Fund. Contributions now exceed $120,000,000 p.a.
- Flexible contributions — pay what you like, when you like.
- A wide range of retirement options with the choice of an instant lump sum payment including partial withdrawal, or a monthly pension for life.
- Retirement payments, adjusted to help cope with inflation, and maintain financial security and independence when you stop working.
- Secure no-nonsense retirement planning that doesn't require a medical, has no age limit, and, most importantly, has no entrance or management charges.
- New Zealand's largest and most experienced superannuation organisation.

NATIONAL PROVIDENT FUND

GOVERNMENT GUARANTEED SUPERANNUATION

Phone your nearest National Provident Fund Office or write to Private Bag, Wellington, for a complimentary brochure.

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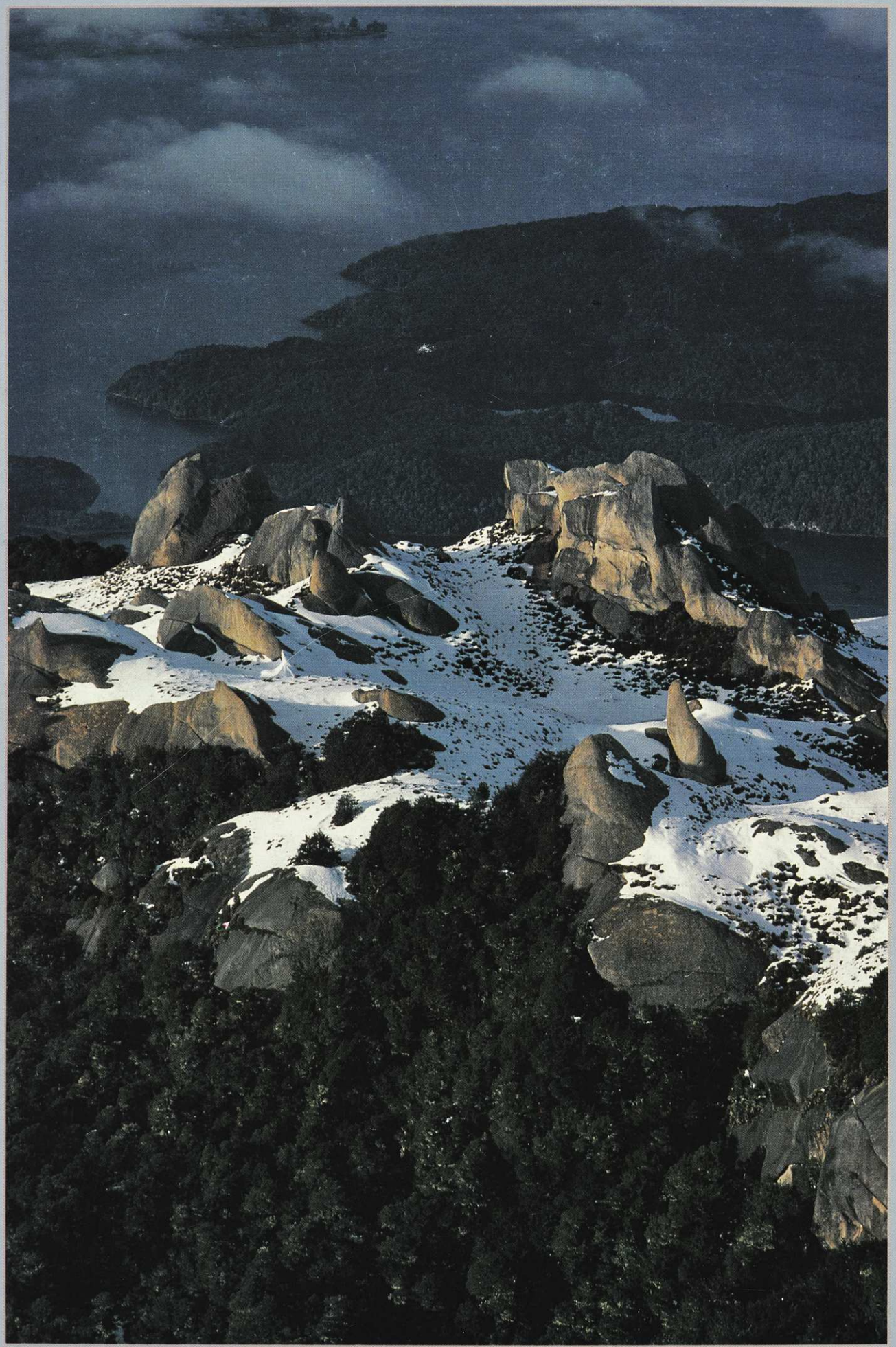

The Bluffs, Murchison Mountains, above Lake Te Anau. This is just one of a series of images highlighting the natural wonders of the South-West in the Society's forthcoming book. *Photo: Ray Joyce, Landsdowne Press.*