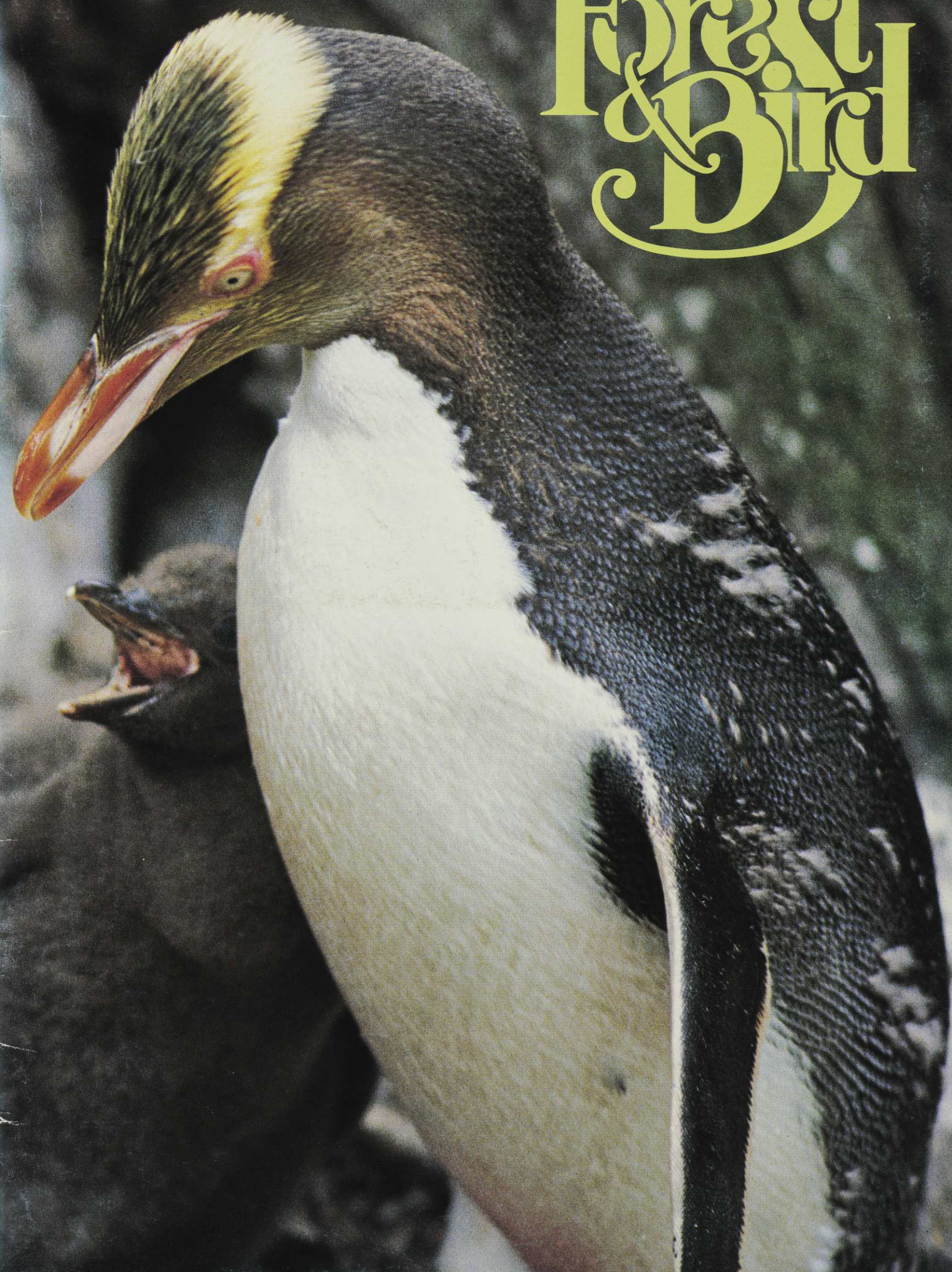


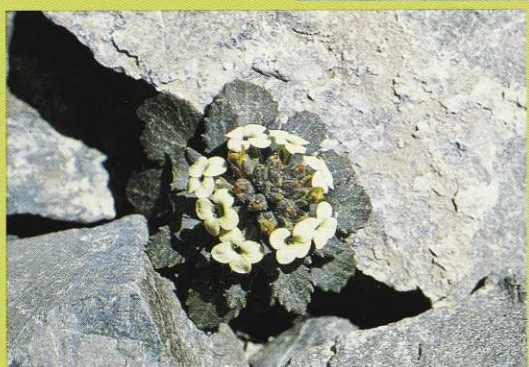
Volume 17 Number 1
February 1986

Forest & Bird



Mt Alarm (9440 ft), along with Mt Tapuaenuku, dominates the stark inland Marlborough landscape. Despite the barren appearance of this countryside, however, it supports a number of fascinating plants and animals, such as the penwiper plant and *Epilobium forbesi* (inset top and inset bottom). An article on these and others is found on page 22.

Photos: Peter Williams,
J H Harding (Penwiper plant)



Cover caption: Hoiho, the world's rarest penguin. This photograph of a yellow-eyed penguin and chicks is available as a high quality poster from the Society for \$4.00. Funds from the sale of the poster will go to our protection programme (see pg 16-17).
Photo: Dean Schneider

High country public lands — Stewardship or exploitation?

Since 1983, the Society has joined with Acclimatisation Societies and Federated Mountain Clubs in seeking recognition for the natural, scenic and recreational importance of the high country. Such attention is long overdue. Over the last 12 years, nearly a third of the high country pastoral lands have been freeholded with virtually no protection for scientific, scenic or recreational values. Advances in agricultural technology since the 1950s have replaced more than perhaps a million hectares of tussock cover with introduced grasses.

In the United States, seas of tall prairie covering nearly a million square kms awed early pioneers pushing west. Today less than two percent of this remains — virtually all of it unprotected. A major rescue effort is now being mounted with the Government prepared to spend \$US15 million to secure a 20,000 hectare reserve for a national park. To a degree, the New Zealand experience is similar, although fortunately our grasslands are still in Crown ownership. Obsessed with mountains, we neglected to set aside the tawny tussock long celebrated by our poets and painters. Meanwhile the landscape has changed, and so too have the homes of the Otago giant skink, the black stilt, Cromwell chafer beetle and Armstrong's hebe — all of which have dwindled to the edge of extinction. Protected Natural Areas survey teams are now piecing together the patchwork of our remaining tussocklands and once identified, officials will consider exchange arrangements and covenants to secure such areas.

A host of policies recently adopted by the Land Settlement Board should now prevent or at least lessen further damage to high country values. The Government also recently endorsed two significant policies: one allowing for severely eroded lands to be excluded from leases, the other to prevent key natural and recreation areas from being freeholded.

However, it is now questionable whether these policies will receive a fair trial. A Land Development Corporation, not the Department of Conservation, has been recommended as the controller of pastoral lands. Federated Farmers have claimed a victory. We believe the recommendation is unworkable on both economic and environmental grounds. A lean, commercially-oriented corporation cannot succeed if it is saddled with the management of a huge estate of essentially non-commercial land. Nor can it hope to administer effectively no less than 28 different policies or statutes designed to ensure the balanced use of the high country. The business solution would be to hock the land off to the highest bidder. We have seen that in the past and it must never be repeated.

The stakes are high. There are 2.7 million hectares of Crown pastoral leasehold land in the South Island and a further million hectares of high country tussock land (including Mōlēsworth) under direct Crown control. This is nearly 14 percent of New Zealand's land area, and a full third of our publicly-owned natural land. The high country makes up nearly a third of our sheep farming land, supports three percent of our total sheep and 1.5 percent of our sheep farmers. In 1982-83, 369 lessees paid \$172,000 or a mere 6.8 cents a hectare for the land.

The Society has recommended pastoral lands should be placed under the control of a neutral stewardship agency advised by both the Department of Conservation and the Land Development Corporation. In the longer term, as further information is gathered on the protective and productive values of such lands, they should be allocated through a public procedure for protection, multiple use production under leasehold tenure or freeholded for farming. Never again should the high country be seen as an outback awaiting exploitation.

Dr Alan Edmonds, President



Contributors to *Forest & Bird* may express their opinions on contentious issues. Those opinions are not necessarily the prevailing opinion of the Royal Forest & Bird Protection Society.

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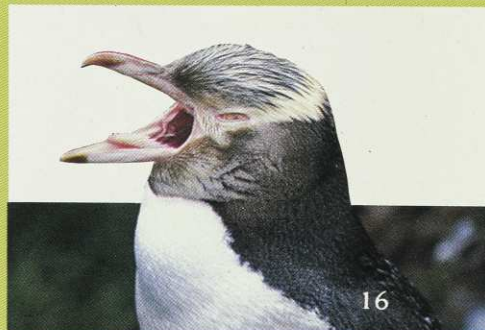
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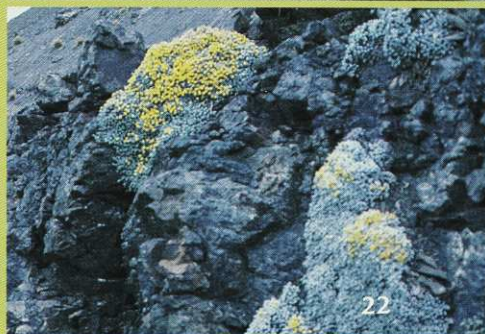
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KEAS FOR KEEPS

by Richard Anderson, Wildlife Service officer



Author Richard Anderson and friend



One can only speculate on what keas did to amuse themselves before Europeans took up the land in the South Island. Today bootlaces, windscreen wipers, tents, precious food packs and vinyl ski-tow seats are just some of our modern trappings that these alpine parrots delight in demolishing.

However, the mischievous tendencies of the kea are almost universally accepted, precisely because they are what endear these 'clowns of the high country' to people. Only in a small section of the farming community are the antics of the kea frowned upon, where some are accused of killing sheep. The stories approach legendary proportions, conjuring visions of countless sheep being herded over cliffs by bloodthirsty keas. Even today, after more than 150,000 keas have been killed by humans, some still insist that uncontrolled kea populations could affect the very livelihood of high country farming operations.

Keas can injure sheep, which may lead to blood poisoning and subsequent death. But it is absurd to contend that a 50cm long bird can kill a sheep, or that it deliberately harrasses mobs over bluffs. Keas have been known to attack sheep immobilised by heavy snow or illness, and they will eat dead carcasses.

Often, however, the reports are either untrue or exaggerated. It is easier to lay the blame at the kea's door and to overlook other problems such as lice, flyblow, dermatitis, injury and old age.

Inoculation against blood poisoning and improved sheep husbandry mean that



"High up in the air he flew, and we caught glimpses of the gorgeous orange feathering on the underside of his wings. As he dipped and circled we marvelled at the flashes of crimson, and of iridescent golden-green and turquoise-blue — colours not usually associated with the sombre moss-green of kea plumage." — from *A Kea On My Bed*, by Molly Falla. Photo: Don Hadden

Only the creation of national parks and the kea's toughness have saved this unique alpine parrot from extinction. Since 1860, it has been estimated that people have killed more than 150,000; today their numbers could be as low as 1000 or as high as 5000. This kea was photographed on Mt Fyfe, above Kaikoura. Photo: Andris Apse

damage or loss due to keas is now insignificant.

Records show that keas were killed as soon as European farmers arrived in the South Island. Between 1860, by which time farming was well established, and 1970, when partial protection was granted, at least 150,000 keas were killed. This has been described as the worst case of avicide in New Zealand's history and one of the worst in the world. G R Marriner writes in his well known book *'The Kea — A New Zealand Problem'* about the numbers of keas that were destroyed. Government involvement with the 'problem' began in 1890 with the introduction of the bounty scheme, which continued until 1971. In 1906 the bounty was worth 6d, this rising to 10 shillings by 1930 — a small fortune in those depression days. In 1935 the division of payment was: Government 3/-; County 2/-; runholder 5/-. Many people used to cross over from Canterbury, which had a bounty scheme, to the West Coast, where they did not have one, in order to hunt keas, and some farmers during the Depression either supplemented their income from schemes or relied on the bounty for income. The most accurate record we have of keas killed during the early part of this century can be found in the *New Zealand Journal of Agriculture*, which shows that 29,249 bounties were paid out between 1920-29!

Many changes have taken place to the kea's habitat and food supply since last century, after the early settlers took fire and axe to the landscape. Sheep and other introduced browsing animals ate much

Typical kea habitat — Double Cone, Remarkables with Queenstown and Lake Wakitipu in the distance. Controversy erupted last November when keas were removed from the Remarkables skifield. The Society's Council meeting unanimously moved: "That the Society deplores the action of the Mt Cook Company and the Wildlife Service in removing to captivity five of the 13 keas from the Remarkables skifield. We note that these are the eastern-most population of keas in Otago, that their presence was widely recognised prior to the skifield establishment, that despite this no effort was made to kea-proof skifield facilities and that removal and imprisonment of the keas was opposed by the Department of Lands and Survey. The Society therefore urges the Minister of Internal Affairs to require his department to immediately return the keas to their natural homes." The Minister has agreed to investigate the matter and has asked the Wildlife Service to stop removing the birds. Photo: John Child

more of their food. Today keas are generally more common on the western side of the ranges than in the east where there are less extensive native forests. Recent data show that keas have been recorded in 480 10,000 yard grid squares — perhaps a quarter of the South Island. Given that each of the squares could support two birds each, with greater numbers depending on how much food is available in some areas, the population has been estimated at between 1,000 and 5,000 birds.

The low figure would suggest that the kea is not endangered, but that it falls between the 'not common' and 'stable' categories.

The kea is a polygamous, omnivorous bird which breeds between July and January. Two to four eggs are laid in nests usually found among boulders in high altitude forest. The kea is related to the kaka, and like all parrots can flex both parts of its beak. It is thought that during the last great Ice Age the species evolved its own special characteristics when it learned to live in the alpine and sub-alpine conditions which then covered the South and most of the North Island. It had to be tough to survive and developed unusual powers of curiosity in its search for food in a barren environment.

Today, keas are partially protected under the Wildlife Act 1953. This means that they are protected in national parks and reserves but may be killed outside of these areas if they cause damage. Over 100 people legally hold keas in captivity but only a few have successfully bred. A recent Wildlife Service census of permit holders has shown that a very small number of keas are being used as call birds although it can be expected that further investigations will reveal more birds which are being held for illegal purposes.

Keas deserve a better deal than what they receive at present. They are a special and irreplaceable part of our natural heritage. The alpine world would be impoverished without them and the increasing public use of the high country today has created new threats to the kea's continued existence. The kea should be granted total protection wherever it is and control methods should be allowed if and where it proves to be a problem. 🐦



A malignant mountain monarch

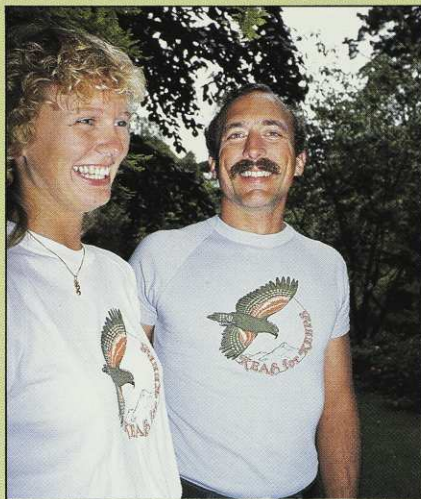
Among all the special features of the high country long neglected by the public, one particular inhabitant stands out — *Nestor notabilis* — the noble kea. Maligned by some high country runholders and more recently by a few skifield owners, kea have suffered enormously since European settlement.

We have played Russian roulette with the kea for far too long. New Zealand has too few native animals to permit perhaps our most magnificent bird to be frivolously killed and abused. Kea numbers have declined and their breeding range has been drastically reduced. The last thing our beleaguered Wildlife Service needs is another species to rescue from the brink of extinction and we therefore can't afford to be complacent.

Captive rearing within the confines of a steel cage is not a dignified future for this monarch of the mountains. Nor will the public stand by and see kea slowly dwindle and disappear from their favoured haunts in national parks and tourist resorts because the birds strayed once too often outside the park onto lands where their presence was not welcomed.

Kea deserve immediate full protection and the implicit assumption of innocence before guilt. The vast bulk of kea would therefore be safeguarded and remain a source of infinite delight to mountain visitors and overseas tourists. In those few instances where kea can be proved to be damaging sheep they could be dealt with by Wildlife Service officers. The kea's current partially protected status which allows a high country runholder to boast in national newspapers of killing a kea a week yet remain immune from prosecution is totally unacceptable to the public. A fair deal for nature in the high country and the kea in particular is long overdue.

Dr Gerry McSweeney, Conservation Director



You Can Help

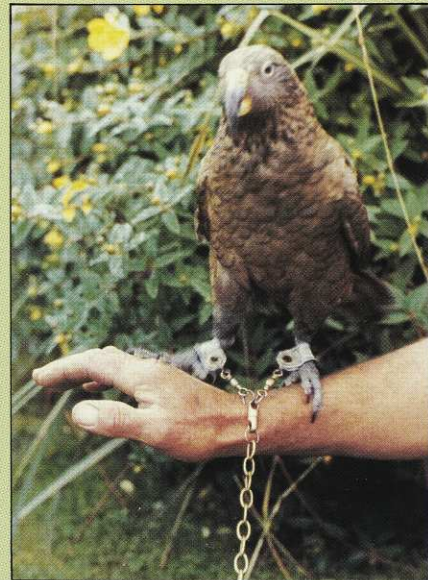
With your help, the kea can be given full legal protection. To coincide with its campaign to care for the kea, the Society has produced a range of marvellous kea products: a t-shirt, poster and greeting card (reproduced off a painting by artist Pauline Morse). The poster photograph is the magnificent one used in this article by Andris Apse.

Order your "kea gear" from:
R F & B Mail Order
PO Box 631 Wellington

T-SHIRTS \$14.00 POSTERS \$4.00
White or silver, SM, M, OS
GREETING CARDS \$4 for 6
This pack of 6 includes 2 each of the kea, black robin and yellow-eyed penguin.

The Wildlife Service want to give the kea full legal protection and have asked our society to poll its members for their opinions. Please write to the Forest and Bird Secretary Box 631 Wellington with your views.

They shoot keas, don't they?



This kea from a Canterbury high country station was discovered by the Wildlife Service in a chained and distressed state at a Greymouth house. The Service cared for it and it was later released into the wild.

In May 1985 a New Zealand Herald and Christchurch Press article on Canterbury Castle Hill station run-holder Max Smith (and former Waitaki power project chief engineer) caused public outrage throughout New Zealand.

"Keas are no friends of high country farmers," he asserts. Max Smith points out a couple of keas in a wire netting cage at the back of the house: "They are our call keas. They call to others which fly down to the house where we shoot them through the window with a .22 rifle, averaging one a week." (NZ Herald, May 28, 1985)

Full legal protection for keas would prohibit such appalling indiscriminate slaughter of keas. Such protection deserves public support. However, it would still allow Wildlife staff to control birds in those exceptional circumstances where keas could be proven to damage sheep.

Gerard Hutching, Editor



O = Kea

Map of kea distribution in the South Island
— adapted from *The Atlas of Bird Distribution in New Zealand*.

What price our heritage?

At its present level of funding, the Protected Natural Area surveys might be finished in 70 years. Gerard Hutching reports on what the programme is and why it is stalled by lack of funds.

New Zealand's "forgotten habitats — long regarded as the poor relations in the conservation family — are today standing in line for better treatment.

Native forests have always loomed large in our consciousness, but it is only recently that an awareness of the worth of wetlands, tussocklands, shrublands and dunelands has grown. Suddenly, it seems, people are discovering fascinating pockets of original New Zealand that make their districts distinctive — whether it be a mangrove swamp, sand dunes covered with native plants, tussock grasslands or isolated fragments of bush hitherto ignored.

For example, a 1980 DSIR survey found that only nine hectares of the former one million hectares of short tussock grassland in Otago was protected in scenic reserves. Even where short tussock has been reserved, such as the Bankside Scientific Reserve beside the Rakaia River on the Canterbury Plains, the tiny area set aside — two hectares — has proved too small and is suffering from fertiliser and spray drift.

Chances lost

To the moa hunters and early European settlers of the South Island, short tussocks were all-pervasive, just as dripping rainforest and flax swamp dominated the Wai-kato basin or the kauri, kahikatea and mangrove represented the lowlands of Northland. Yet in all these areas this distinctive and widespread natural vegetation and its animal inhabitants have been almost completely replaced by introductions and a cultural landscape.

Opportunities are rapidly dwindling for us and our descendants to have any perception of the landscape around our homes that greeted our earliest ancestors.

Equally, or possibly even more importantly, the chance is being lost to secure baselines in such natural landscapes against which to measure the effects of cultural change on the soil and its biota. Subtle genetic diversity and adaptations in native plants and animals throughout the country are also being lost.

At an official level, an attempt is being made to identify what is left of our natural areas and to protect representative examples of natural vegetation and wildlife. The emphasis is now very much on protecting representative examples rather than just focussing on the rare or exceptional. Thus, Northland's infertile gumlands, West Coast pakihi, the arid native shrublands of inland Marlborough and the red tussock of the Southland plains will have a chance of joining the native forest areas that dominate the present reserve network.

When it was launched in 1983, the Protected Natural Areas Programme was hailed as the means by which New Zealand could plan "an integrated land use programme with the minimum of conflict over different options."

Two years later, though, the programme is starved for funds and could be stalled unless urgent action is taken.

Destruction continues

Meanwhile the destruction has continued. Native forest still goes into the sawmill and chipper or up in smoke, making way for pines and grass; between 1978 and



Above: Native vegetation in the lowland part of the Rangitikei ecological region of the southern North Island has been almost completely eliminated. However, on the mudstone escarpments of the Rangitikei Gorge survive a mosaic of shrub and forest species dominated by kowhai. Photo: Graeme Loh

Opposite: Kahikatea forest was once widespread on floodplains and swamps throughout New Zealand but today 98 percent has disappeared with the only remaining extensive forests now in southern South Westland. Elsewhere remnants are scattered through mainly dairy farming districts. The PNA programme is seeking to identify and protect kahikatea forests, described by Captain Cook's botanist Joseph Banks as "the finest trees my eyes ever beheld."

Photo: G D McSweeney.

Inset: Representative reserves are living examples of nature's diversity. Many Southlanders initially thought the bog pine of the Wilderness Nature Reserve near Te Anau would be better as farmland. In 1970 such sentiments resulted in 17ha of the reserve being cleared for farming. However the 88ha that remain have now become a special stopping point for the numerous tour buses to Fiordland. Visitors are here shown the "unique vegetation of primeval New Zealand". Photo: G D McSweeney

1982, 367,000 hectares of "scrub and brushweed" was destroyed; the original character of dunelands is changing through widespread marram grass planting; exotic green pasture has replaced large areas of tussockland with the aid of taxpayers' subsidies, and wetlands are still going down the drain because of subsidies.

The PNA programme was set up by the National Parks and Reserves Authority to provide the framework for protecting the best of what remains of all ecosystems throughout the country. The Authority realised that most of New Zealand's national and forest parks and large reserves are found in mountainous areas; they do not fairly represent the original diversity of the country. This is clearly recognised in legislation — the Reserves Act 1977 states the objective of "preservation of representative samples of all classes of natural ecosystems and landscapes which in the aggregate originally gave New Zealand its own recognisable character."

The Government in its 1984 election manifesto reinforced that message. When it came to power it found a programme up and running. All it had to do was fund it, but in fact it has cut its funding. The amount required to cover the whole country is estimated to be \$7 million over the next 10 years.

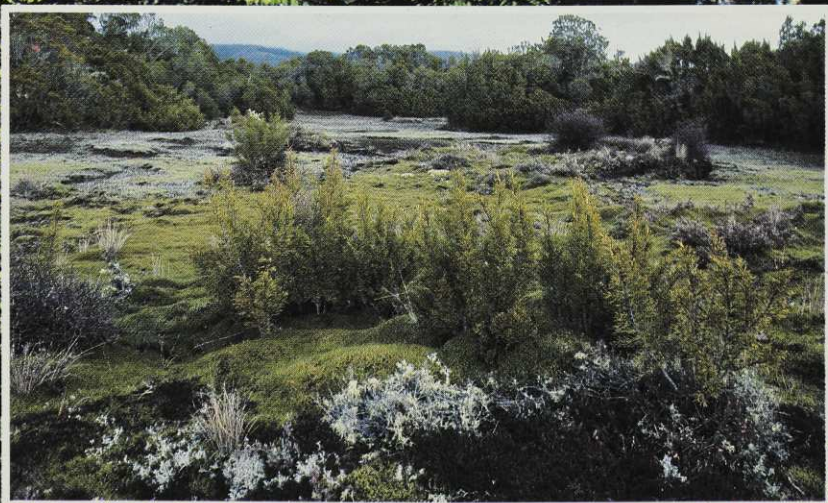
Chequered career

From the start, the PNA programme has had a somewhat chequered administrative career; the NPRA has overall responsibility for the scheme through a complex management committee on which several Government departments and the QE II National Trust was represented.

Programme staff have been employed by Lands and Survey but paid through the Labour Department's Special Employment Scheme. The SES was always envisaged as a temporary scheme, but in the two years of the programme's existence, no long-term funding proposal has been put forward to the Government.

The PNA programme has two phases — survey and implementation — and as a first step New Zealand was divided up into 268 ecological districts based on climate, landform, soils, vegetation and wildlife. The Biological Resources Centre under Dr Geoff Park carried out this sub-division and devised methods of rapid survey. The key survey phase got underway in late 1983. It was estimated the programme would last 10 years.

Working in teams of seven to 10, teams conducted four pilot studies, surveying both public and private land with permission from the owners or lessees:



Rodney district. Just north of Auckland, this district contains remnant forests much affected by logging and fire, but which are strongly regenerating. Rocky headlands, forest fragments and complex estuarine systems enclosed by sandspits and dunes are a feature of the district.

Motu district. Eastern Bay of Plenty. Much of the land here is Maori land in multiple ownership, lying between Raukumara State Forest Park and the sea. Long hours were spent in meetings with owners, and it was stressed that protection of key areas would be voluntary.

Mackenzie region and the Old Man district. While the magnificent South Island natural tussocklands stand comparison with other great world grasslands such as the North American prairies, scarcely any have been reserved. Forest and Bird has been pushing strongly for the protection of important natural areas in the high country, but it is vital to know where those areas are.

In the main runholders are pleased that such surveys are being conducted, since questions about what needs to be protected will become clear cut, leaving no-one in any doubt.

New programme problems

The teams adopted different approaches in their surveys — the Mackenzie team stretched itself to complete seven districts, while the Old Man team worked more intensively, to find the autumn snows upon them by the time only half the district had been surveyed. That first 1983-84 season highlighted the problems of putting a new programme into practice. On the one hand the teams had to carry out a survey with scientific precision, on the other they had to do it rapidly so the whole country could be covered in a realistic time.

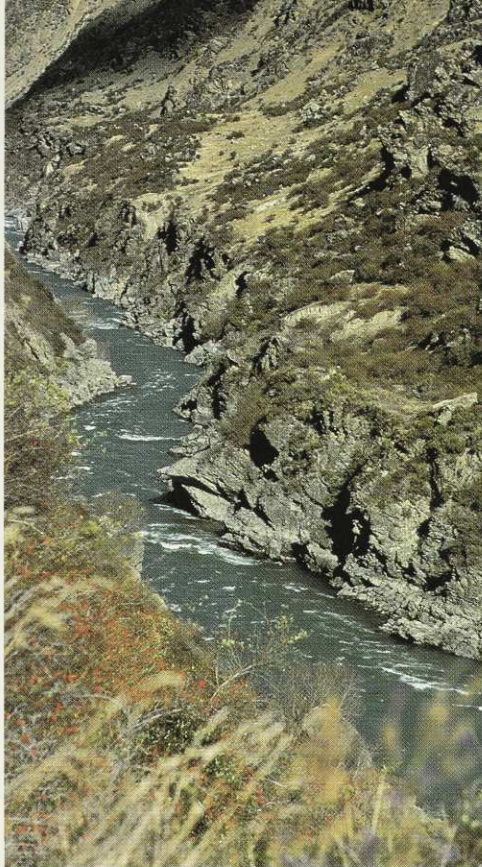
The next season the teams built on their previous experience. The Mackenzie team moved north to look at three districts of the Heron region, and the team working on the Old Man district finished their survey and helped a new team in the adjoining Lindis, Dunstan and Pisa districts of the Central Otago region. Other surveys were carried out in Marlborough (eight small districts), and in the North Island, teams investigated the Pukeamaru district (East Cape) and the Egmont region.

At the end of the 1984-85 season, the PNA programme found itself a victim of Labour's wish to cut "artificial" employment schemes. Despite strong Government policy on the need for reserves and a sophisticated programme developed to implement it, funding has virtually dried up. This 1985-86 season, only two surveys are underway. The North Taranaki survey is being jointly funded by Lands and Survey, State Coal Mines, Electricity Division and the Forest Service. The Umbrella district in Central Otago is being surveyed through the University Grants Committee.

Staff victims

The young graduates who have staffed the PNA programme are also victims of the poor funding. Because it has operated under the temporary SES scheme, staff could

Left: Kawarau Gorge, Old Man Ecological District, Central Otago. A PNA team led by Cathie Brumley surveyed this extremely dry area in 1983-85. It has recommended a series of ecological reserves for the district covering altitude sequences, from the arid gorge vegetation up to the wet tundra of the range tops. Photo: Barney Brewster



not commit themselves to it (most are striving to find other long term work but would gladly accept PNA work if it were long term).

Cathie Brumley, the Old Man team leader, says that a lot of enthusiasm and dedication has gone into the programme over the last two years, but this is in danger of disappearing.

"With the programme stopping now there is a vast store of experience and expertise which will drift away into new jobs — and when the programme takes off again that experience will have to be slowly and expensively built up again," she says.

Derek Roozen, an earth scientist who worked on the survey, points out the value of the broadly based PNA surveys, integrating the biological aspects of the ecosystems with the landforms. He too feels that the loss of staff experience will see the programme set back markedly.

"With the cessation of officially run PNA surveys, the most valuable resource — the knowledge and experience of the survey workers — is lost. If it is restarted sometime in the future, people will have to be trained and will probably make the same mistakes all over again," he says.

Dave McKerchar, Director of National Parks and Reserves, agrees that staff have not been given the best treatment, and the programme has suffered as a result. A lack of job security has meant high staff turnover and last minute extensions of the programme have not helped morale.

A better deal?

However, under the new Conservation Department, the programme may be given a better deal. McKerchar says he hopes to see it as the central mission of the new department in the long term, and thinks it might be more successful in attracting funds after April 1.

Critics of Lands and Survey's uneconomic farm developments have pointed out that \$70 million was budgeted for this in 1984. \$10 million has been budgeted over the next 10 years for the controversial Aotuhia development in eastern Taranaki; (see article in August 1985 *Forest and Bird*). The National Parks and Reserves budget, on the other hand, amounted to only \$11 million in 1984-85 and has been cut back to \$9.8 million this year.

Until recently, land development spending by Lands and Survey has not been adequately placed under the microscope, but the folly of spending \$10 million for 12 hill country sheep farms in remote Aotuhia will be made plain with the establishment of the Land Development Management Corporation.



Centre: Until the 1930s Depression, the Kaingaroa pumice plain was covered in unusual native frost flat vegetation dominated by monoao (*Dracophyllum subulatum*). Today virtually the entire Kaingaroa ecological district has been transformed to pines and pasture. Monoao-hebe-kanuka vegetation only survives in a small block on the Whakatu Crown lands and in the Rangitaiki State Forest along the Taupo-Napier road. Although both areas were zoned for farm development, the Society, DSIR and the Forest Service are now seeking protection of these areas as representative reserves.

Photo: Graeme Loh

Bottom: Native pingao (*Demoschoenus spiralis*) crests a Northland foredune. Formerly widespread on dunes, pingao has been largely edged aside by introduced marram grass. Remnant pingao needs to be preserved and managed in its natural state to supply much sought-after weaving material for Maori craft workers. Photo: Terry Fitzgibbon

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**HELP US PROTECT OUR ENDANGERED ANIMALS,
PLANTS AND HABITATS.**

Report published



Survey complete



Planned 1985/86



As at October 1985

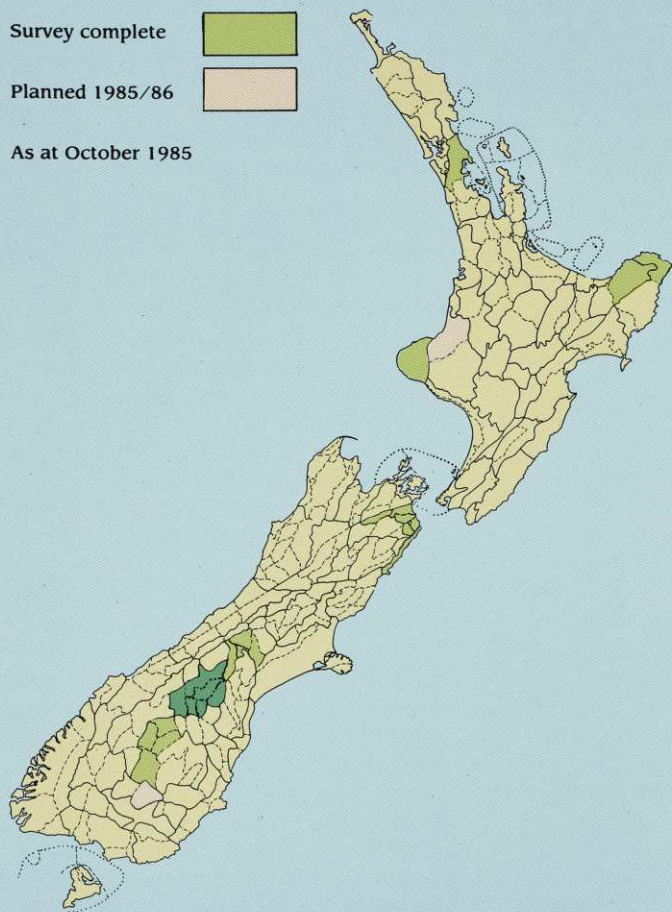


Fig 1: New Zealand divided up into 268 ecological districts based on climate, vegetation, soils and landforms.

Decisions will then be made by Cabinet rather than bureaucrats; this transparency is central to the rationale for the Department of Conservation. The new department will have a clear and undivided responsibility for conservation. It is vital that it presses strongly for PNA funding, and that the merits of its case are given a sympathetic hearing by the purse string controllers in Treasury.

Implementation the key

Once the PNA surveys are completed, areas will then have to be protected, again raising the question of finance. However, many areas will be protected at minimal cost. They may be publicly-owned lands, their owners may be willing to covenant them either through the QE II National Trust or with the Government under the Reserves Act, or the land may be swapped for less ecologically valuable Crown land. Some key areas will have to be bought outright.

However it is done, implementation of the PNA surveys must follow rapidly. When it was begun in 1983, the programme was hailed as a world leader. By 1986 the claim rings a little hollow. It is not so much the programme which is deficient but the political will to push it. 🦜



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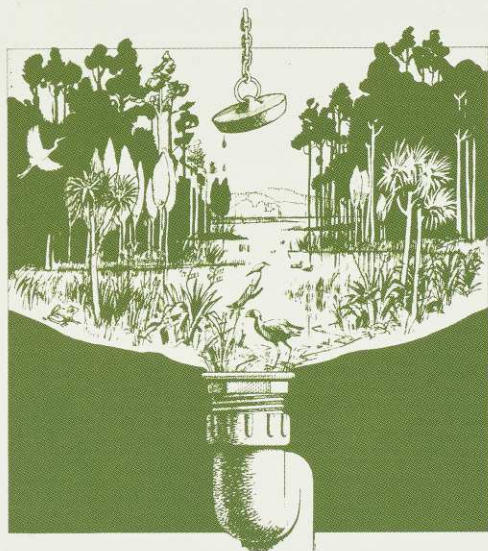
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Pulling the plug on West Coast wetlands

by Kevin Smith, Society West Coast conservation officer



Graphic supplied by the Commission for the Environment

Giant kokopu by the bucketful! Several years ago that was the haul when Fisheries scientists sampled deep, flax-shrouded pools on the edge of the huge Rotokino Swamp in South Westland. However, this event will only be remembered in Fisheries folklore. In 1982 a heavily subsidised Westland Catchment Board drainage scheme drained these pools and much of the remainder of the 400 hectare swamp.

Rotokino was an important habitat for the giant kokopu. Arguably the most beautiful of our native freshwater fish, its body mottled by delicate gold markings, the endemic giant kokopu is one of the whitebait species and the largest galaxiid in the world. Because its preferred home, low-land swampland, has been destroyed on a massive scale throughout New Zealand, it is now regarded as a potentially threatened species. It has vanished almost entirely from developed parts of the country; the West Coast is its last stronghold. But

Right: This ditch through the heart of the Rotokino Swamp was largely funded by taxpayer subsidies. Wetland drainage is often unsuccessful, as is noted by Minister of Internal Affairs, Peter Tapsell: "In these, the wildlife values have been destroyed . . . and the inability to successfully develop for agriculture is equally evident. They are now neither wet nor dry and may be truly described as 'wasted land.'" Photo: Bob Simpson.

even there it is at risk, for generous taxpayer-funded drainage subsidies have led within just the last seven years to the loss of 1000 hectares of fertile West Coast swampland. During this period 15.6 per cent of the fertile swamps of Buller-North Westland were lost.

Sadly the problem is not restricted to the West Coast. Between 1979 and 1983 the Wildlife Service in Northland found that 3176 hectares of freshwater wetlands were drained — 14.4 per cent of these type in Northland. Most of these, too, were the victims of taxpayer-funded drainage subsidies.

Exceptional Rotokino

Westland's Rotokino Swamp had exceptional natural values. Along with giant kokopu, its waterways contained an abundance of inanga, the small galaxiid fish on which New Zealand's world renowned whitebait fishery is based. Hidden amongst the dense swamp vegetation were good numbers of three declining wetland birds: bittern, fernbird and spotless crane. White herons from the nearby Waitangiroti nesting colony used the swamp as an occasional feeding ground. And travellers on the adjacent South Westland state highway enjoyed glimpses of the swamp's dark waters, especially in early summer when the surrounding flax battalions raised their spearlike flowering stalks.

The Wildlife Service sought the complete reservation of Rotokino which they rated as a high value wildlife 'habitat of note'. They managed to buy the bottom corner of the privately-owned swamp for reserve but were unable to prevent drainage of the remainder. Obviously their reserve is jeopardised by adjacent development.

Although the drainage was subsidised with public money, no environmental assessment was prepared; a comprehensive fishery survey was conducted only after the kokopu areas had been destroyed; the

controlling authority, the Westland Catchment Board, did not even bother to obtain the legally required water right!

Wetland conservation ignored

Sagas of this kind have been all too prevalent in New Zealand. Wetland conservation has been ignored here to an unforgiveable degree. Over 90% of our natural wetlands have been destroyed since European settlement. Vast swampy plains, once such a distinctive feature of the landscape, no longer exist. Swamp drainage may well have been justified in the pioneering era as these plains yielded some of our richest farmland. Over the last 30 years, however, as swamplands have been eliminated in some regions and reduced to pathetically tiny remnants in others, the wisdom of expanding agricultural production at the expense of the remaining wetlands has increasingly been brought into question.

Numerous seminars, field trips, reports, inventories and policies have focussed public concern on the plight of wetlands and the specialised plants and animals dependent on them for their survival. This outpouring of concern by scientists, officials, politicians and wetland conservationists has achieved only stuttering progress towards legal protection for the remaining wetlands. But then it has hardly been a fair contest: the few environmental controls have been ineffective in checking the subsidy-fuelled drainage mania of agriculturalists, water engineers and farmer-dominated Catchment boards.

Surveys show that 160,000 ha of wetland, most of it freshwater swampland, was drained between the mid-1950s and 1960s. Since then, despite the steadily worsening economics of land development, the rate has probably increased because of the introduction of a variety of land development subsidies by Governments keen to boost agricultural production and appease rural constituents. Even when the new Labour Government came to power in 1984 and quickly slashed





Above: Tranquil Lake Rotokino is a Scenic Reserve. However, its waters drain from the severely damaged Rotokino Swamp and the lake is now likely to suffer from nutrient enrichment. Already giant kokopu have disappeared from its waters. For long-term survival, wetland reserves must encompass whole catchments. Photo: G Salmon



The giant Kokopu, largest galaxiid in the world, is threatened by continual drainage of fertile flax swamps. Juvenile kokopu and other galaxiids constitute the delicacy white-bait, but are only common where swamps still remain. Photo: R M McDowall

nearly a billion dollars of farm support subsidies, wetland drainage subsidies escaped unscathed.

\$5.6 Million drainage subsidy since 1981!

At the time of writing, two specific subsidies exist for new wetland drainage projects: a nationwide community drainage subsidy (50%) — this pays for the large drain down the middle of the swamp; and an additional on-farm drainage subsidy (50%) available only on the West Coast. Under these two schemes total government expenditure on wetland drainage over the last four years totalled \$5.56 million. The National Water and Soil Conservation Authority (NWASCA) administers the schemes but only those costing over \$20,000 must be referred to them for approval. The regionally approved schemes, while small in economic terms, often have serious environmental consequences by destroying vitally important remnant wetlands.

Some of the subsidised works are located on wet pastureland and do not conflict with natural values. Where conflicts do exist, the schemes should adhere to the Wetland Guidelines adopted by NWASCA in 1982. However recent experience has shown that Catchment Boards are often ignoring the guidelines. Drainage schemes are being initiated, promoted and approved for wetlands of indisputably high natural value. This is to be expected since most Catchment Boards are dominated by farmers and are advised by engineers

whose work experience is confined to river control and drainage works. The existence of the drainage subsidies is interpreted as Government support for wetland drainage and the financial inducements overcome environmental constraints.

Estuaries, pakihi, swamps

The problem has been most acute on the West Coast, home of some of the country's finest remaining pristine wetlands. Of the region's three major wetland types — estuarine, infertile (pakihi) and fertile (swampland) wetlands — only estuaries are relatively secure.

Pakihi wetlands are still common in South Westland but are rapidly attaining remnant status elsewhere, through losses to farm development and afforestation.

Swamps have fared even worse as they are specifically targeted by the drainage subsidies. They can be identified by the presence of nutrient-demanding plants such as flax, raupo, *Carex* sedges and cabbage trees. Fertility is maintained by water movement through these frequently flooded wetlands. Swamps are the exclusive habitat of bittern, marsh crake and spotless crake, all of which are secretive wetland birds that are silently vanishing along with their habitat. Fernbirds and waterfowl may be abundant, and the swamp waters provide essential habitat for several native fish.

Because of their high productivity, rich fauna and remnant status, swamps possess conservation values out of all proportion to their size. Wildlife Service surveys

have shown that since 1978, 633 ha (15.6 percent) of swampland, out of a total of 4,043 ha, has been lost in Buller and North Westland, and 360 ha lost in South Westland. The loss has not been balanced by any significant conservation gains. In fact, the reserve system is virtually devoid of swamps. For example, in Buller County there remain only 12 swamps of sufficient value to wildlife to be rated as habitats of note. Only two of the swamps are larger than 100 ha; none are reserved, all are threatened by development in the short to medium term.

Catchment Board empire

The remaining wetlands on the West Coast are the legacy of over 100 years of development. Agriculturally, they represent the bottom of the barrel and the impetus for their drainage is wholly dependent on the availability of subsidies. Apart from the obvious financial incentive, subsidies have unduly accelerated wetland drainage in three ways. First, implicit in the existence of any subsidy is its eventual removal, accentuated in this instance by the recent removal of most other agricultural subsidies and by the continuing focus on wetland protection. Farmers are enticed into drainage schemes by the knowledge that they might miss out on the subsidy if they delay. Second, the central involvement of Catchment Board staff in the design, construction and administration of subsidised drainage schemes ensures they have a vested work interest in the promotion of wetland drainage on private land. For

every dollar spent on drainage (capital works) the Catchment Board receives an additional 30 percent administration grant from Government. If capital works dwindle, so too does the Catchment Board empire. Third, to meet the requirements of both the on-farm and community schemes more extensive drainage works are installed than were often envisaged by the landowners.

The other major West Coast casualty of the drainage subsidies was the Kongahu Swamp near Karamea. This large flax swamp had been identified as the outstanding swamp habitat in the north-west of the South Island. Both the Kongahu and Rotokino are difficult and costly development projects. Even some local farmers privately express the opinion that they are unwise investments. Certainly, not all swamp development succeeds, the most recent failure being the Kaniere Farm Settlement near Hokitika. Lands and Survey have abandoned it as a settlement proposition after vainly trying for years to turn an intractable wetland into economic farmland.

In the last year there has been a flurry of drainage proposals on the West Coast affecting swamps previously identified by the Wildlife Service as valuable wildlife habitats. These include the Ohinetamatea, South Turnbull, Kini and Mumu Creek swamps of South Westland, the Lake Hau-piri wetlands of North Westland; and the Birchfield Swamp north of Westport.

Fire fighting by Wildlife

The proposals are being fought on a case by case basis by the Wildlife Service, Forest and Bird, and the Acclimatisation Societies through costly, time-consuming objections to water right applications. The rapid-fire drainage initiatives of the Westland Catchment Board have outstripped the capacity of the official conservation agencies to cope with them. Lands and Survey have observed that "The Wildlife Service are struggling to keep up with the work pressure having only one permanent officer in Westland and are only fighting fires by addressing each drainage application as it arises...". Fisheries Research Division is seeking funding for a sorely needed regional survey to identify the important indigenous fish habitats. Botanical and general scientific values of the wetlands are being completely ignored because of a dearth of resource information. Unless the impetus for drainage is curbed on the West Coast and elsewhere, then there is an immediate and legitimate demand for substantial extra funding to the conservation agencies. They need to be able to document the values of the remaining wetlands, assess the conservation priorities, and purchase critical wetlands in private ownership.

Political recognition of the scarcity of wetlands and of the need for effective conservation policies has been slow in coming. A major report on wetlands prepared by the Environmental Council in 1984 highlighted the need for urgent political action. It has proven to be a useful catalyst in changing official attitudes. Some of its

... STOP PRESS • STOP PRESS ...

Government indecision may herald a five-year subsidised blitz of the remaining West Coast wetlands. On December 3, 1985, the National Water and Soil Conservation Authority (NWASCA) supported a five-year extension of the West Coast farm drainage subsidies, provided that:

- * Wetlands with "significant natural or scenic values which would be lost or diminished by drainage" be ineligible for the subsidy.

- * An advisory group to the Westland Catchment Board (with rights of appeal to NWASCA) be established with representatives from Wildlife Service, Acclimatisation Societies and Forest and Bird to assess drainage applications.

The drainage subsidy has been retained despite widespread opposition from the public and several Cabinet Ministers. This highlights the lack of accountability of NWASCA to the public and elected Government. Wetland advocates now face continued difficulties in case by case arguments on often subjective grounds against a distorting and uneconomic subsidy. Further attrition of wetlands will take place because of inevitable compromises.

The Government must review NWASCA's decision so that subsidies are removed and replaced by incentives to preserve wetlands.

recommendations were incorporated into Labour's Natural Waters election policy. This promised permanent reserve status for wetlands of natural importance, and approvals for wetland drainage only after catchment wide evaluations show minimal adverse effects on scenic, habitat or hydrological values. Fifteen months after Labour took office these praiseworthy recommendations have not been ratified.

However, Internal Affairs Minister Peter Tapsell has been battling hard to have our remaining wetlands protected. In November 1985 he wrote in seeking the removal of drainage subsidies: "Problems of wetland loss are not confined to the West Coast. It is a national problem most evident in Northland, the West Coast, Otago, the Bay of Plenty, Hawkes Bay and the Waikato. In those areas the local authorities are particularly pro-development... on the West Coast the Catchment Board and the County Councils have stated publicly that the 100,000 ha of wetlands remaining in private tenure are available for drainage and development."

Tapsell notes that since December 1984 his Wildlife Service has investigated 31 applications for water rights to drain West Coast wetlands identified as habitats of note. He also considers the availability of wetland drainage subsidies as the single most important factor encouraging wetland destruction.

Ministerial support, no action

Conservationists' efforts to stop the subsidies have been supported by other Cabinet ministers.

The Minister of Finance, Roger Douglas, has noted that development subsidies sometimes encourage "a degree of development that was not justified by the underlying profitability of the investments involved. This may well have militated against the preservation of some resources such as wetlands". This view is shared by the Minister for the Environment, Russell Marshall, who stated in April last year that



Fig 1: South Island wetlands as assessed locally by catchment authorities. Key West Coast swamps (fertile, flax-covered wetlands) are named but infertile pakihī wetlands widespread in Westland are not shown. Adapted from "Wetlands, a diminishing resource," by the Environmental Council, 1983.

"the drainage subsidies at the present level do not reflect the national interest and should be removed".

In response, the Minister of Works, Fraser Colman, has said he favours the reduction of the 50 percent community drainage subsidy to a 35 percent subsidy, and the phasing out of the special West Coast subsidy over the next five years!

This five-year forewarning will guarantee a rush of drainage before the subsidy is removed. Forest and Bird has therefore renewed its efforts to halt subsidies for drainage of natural wetlands.

On its own, this removal will not achieve effective long-term wetland conservation, though it is an essential first step.

- * Government and its agencies' policy, along with regional and local authorities should recognise the importance of wetlands and the need for their protection. Wetland protection should be a matter of national importance under the Town and Country Planning Act.

- * Wetlands of national importance should all receive legal protection in accordance with the Government's election pledge.

- * Wetlands of regional and local importance should be protected. On private land, protection should be encouraged by financial incentives such as rating relief, tax credits and protection subsidies. Adequate funds should also be available for Crown purchase of such wetlands and Crown-owned wetlands should be given formal protection.

To date, ministerial expressions of concern for the plight of our dwindling wetlands have not been translated into action because of intense lobbying by groups with vested interests in wetland drainage. Meanwhile, out in the provinces, the diggers are still clanking their way through the swamps. Wetlands remain an ever diminishing resource.

Forest and Bird's Wetland Policy is available from the Society secretary on request.

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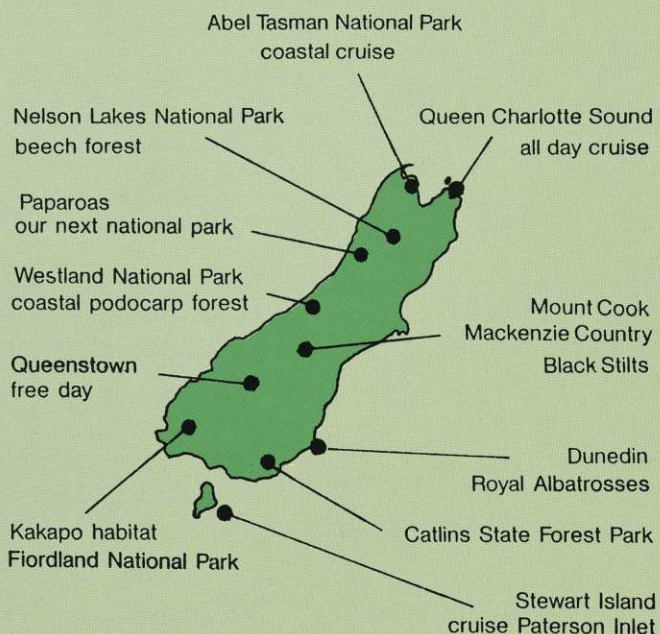
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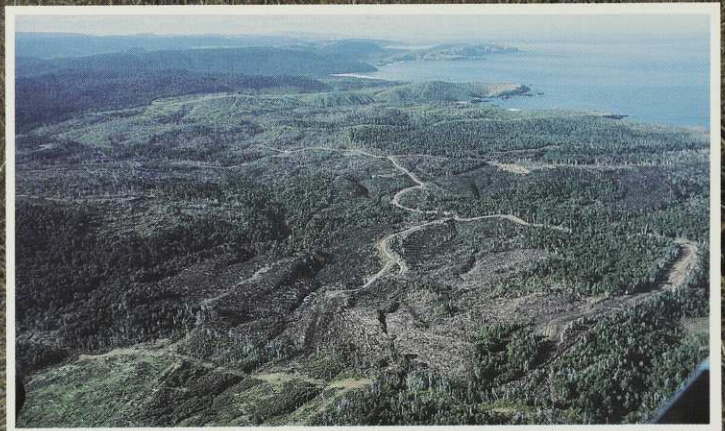
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STOP PRESS: As this was going to print plans were being finalised for a tour to Preservation and Chalky Inlets and Dusky Sound in Fiordland in July/August 1986. Only a very limited number of berths are available on the 9 day chartered cruises—an opportunity of a lifetime to visit these remote and inaccessible areas. Write now!



A memorable “forgotten corner”

By Society national secretary Joan Leckie



One of the “forgotten corners” of New Zealand though it may be, South Otago’s Catlins leaves an indelible memory on those fortunate enough to visit it — tall rimu, miro, totara and rata forest leads to spectacular beaches, rocky coastlines, giant sea caves, flocks of native pigeons, shy yellow-heads, and home of the yellow-eyed penguin.

There, on 16-17 November last year, began a new era of Forest and Bird Council meetings, as our councillors gathered from all over New Zealand for a stimulating conference on topics as diverse as the cultural importance of the Catlins, nature protection on private land, threats to the disappearing habitat of the yellow-eyed penguin, and the proposed south-west New Zealand World Heritage Site.

Arriving in the southern twilight, the councillors were welcomed by the call of the bellbird and the murmur of the surf. Our people relaxed in surroundings where they felt far more at ease than in the concrete jungle of Wellington’s Willis Street. Many were up with the dawn chorus the next morning, and almost all were down to the beach to walk, run, swim and take in the atmosphere. We were in our element, and nature conservation matters came to the fore very easily.

Straight after breakfast, in groups, we discussed the practical things that concern every branch committee — attracting more members, fund raising, and regional conservation issue. The nine discussion leaders from branches throughout the country all impressed us with their expertise, and many good ideas were stored away to take home.

By 10.30 am, three busloads of conservationists had set out to explore the Catlins with local experts. Councillors were appalled at bush clearance for chip-milling. In return for taking all the rata and kamahi logs, millers left the farmer with a block of cleared land strewn with branches and stumps, and an access road. With careful tending some eventually becomes pasture, although much was reverting to scrub.

Professor John Morton treated one group to the wonders of life below the high tide line when they visited awesome Cathedral Caves, and Professor Alan Mark led another group through the spectacular dune forest scenic reserve at Tahakopa Bay, where the dense podocarp forest covering old estuarine mud-flats and sand-dunes remains one of the few lowland stands on the east coast of New Zealand. About a thousand years ago moa hunters feasted here, and bones, shell-strewn middens and campsites have been found.

Opposite: The weathered skeleton of a totara in Tahakopa Bay frames councillors walking along the beach. The Tahakopa Scenic Reserve remains one of the few lowland podocarp stands on the east coast of New Zealand. *Photo: Terry Fitzgibbon*

Inset: The ironically named Progress Valley, scene of chipmilling operations in the Catlins. In return for an access road and partially cleared land, farmers give the millers all their rata and kamahi timber. However, many farmers are now unhappy with the state their land has been left in after the chipmill has done its work, and its days may be numbered in the Catlins. *Photo: Alan Mark*



Cathedral Caves are a star attraction for Catlins visitors, who should, however, proceed with caution as the tide comes rushing through the caves at its height.

Photo: G D Hutching



Councillors discussing conservation issues at the Tautuku Outdoor Education Centre.

Paul Every led another group to his favourite photogenic waterfall, and Graeme Loh delighted many North Islanders by showing them rare yellow-heads in silver beech forest alongside the Catlins River. Near the Society’s Tautuku Lodge and 550-hectare Lenz Reserve, another group discovered fernbirds in the flax edges of a wetland.

After a day in the fresh air, relaxing and listening to speakers often produces a compelling desire to nod off, but not here. A group of speakers gave us an evening which none of the councillors will forget in a hurry.

Alan Mark outlined the natural history of the places we had been visiting that day. John Darby, Otago Museum ornithologist, told us about the plight of the yellow-eyed penguin, now the world’s rarest, which needs extensive bush cover close to the sea for nest sites. The march of the chipmill over the land is spelling doom for these friendly birds.

Rangimarie Te Maiharoa and Marna Dunne, two trustees of the Waikawa-Tautuku Maori Lands, then spoke to us with eloquence and emotion of their love for these lands, and while wishing to share,

did not welcome the intrusion of pakeha rules and regulations. Julian Rodda, Commissioner of Crown Lands, then spoke with sincerity and concern of his Department’s efforts to create a Catlins Coastal Park which could remain unspoilt for all to enjoy in the years to come.

Everyone there began to get an insight into the patience, tolerance and sensitivity needed behind the scenes to finally achieve the protection of a piece of natural heritage for all to enjoy.

Dawn chorus and beach patrol again set the scene for Sunday’s formal Council meeting. Reports given showed the Society to be alive and working well, and councillors focussed their concern on full protection for the kea, and renewed efforts to protect the habitat of the yellow-eyed penguin. Sanctioning of a new branch at Whangarei, branch assistance with staff employment, and the development of a new Society camping ground in Northland rounded off a very satisfactory meeting.

A briefing session by staff members, on the current issues of conservation (South Pacific rainforests, South-west N.Z. World Heritage, environmental administration, private bush protection) gave councillors a glimpse of the high powered and professional way in which the staff work. Members can be reassured that our Society is being very well served by a team of devoted, highly-qualified and effective people who, in turn, are guided by an executive committee comprising some of New Zealand’s outstanding environmentalists.

Farewells and thanks were fond and sincere, as councillors departed, some to catch aeroplanes, some to continue holidays, and some to spend another day looking at albatrosses, nesting shags, penguins and seals around the Otago Peninsula. 🐧



The Catlins is rich in marine fauna and flora. The common bull kelp, Tahakopa Bay.

Photo: Terry Fitzgibbon

Hoiho- world's rarest penguin

The yellow-eyed penguin, the world's rarest, is in danger of becoming even rarer still because its habitat is being destroyed along the south-east coast of the South island. This highly unusual penguin is found only in New Zealand — either on the mainland or a few southern offshore islands — with a significant breeding population found on the Tautuku Peninsula. Its numbers are estimated at between 1200 and 1800 pairs. Photographer and Southland schoolteacher Dean Schneider has over the last few years captured the birds in many moods; here are just a few of them.

The Royal Forest and Bird Protection Society needs financial help to mount a Yellow-eyed Penguin Conservation Programme. In co-operation with Government agencies and the World Wildlife Fund it would:

- foster understanding and concern through public education and research
- conserve the penguin's coastal breeding habitat through land purchase, conservation covenants, fencing programmes and restoration by revegetation.

Estimated cost of the programme is \$50,000. Donations are tax deductible and welcomed from concerned businesses and individuals.

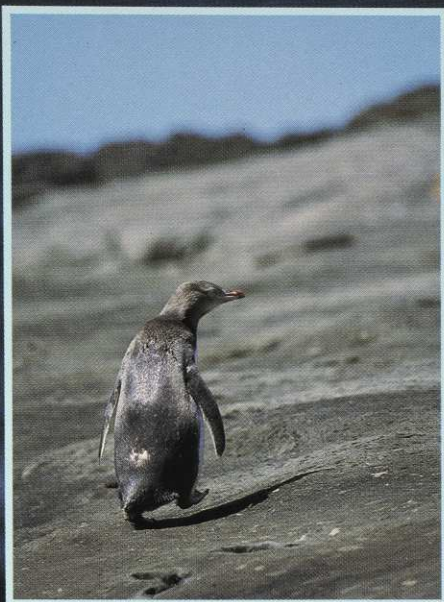
Send your donations to: Save the Yellow-eyed Penguin
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P O Box 631, Wellington.
Further information available on request.



After coaxing the two-week-old chick with a gentle nudge, the parent puts its open bill over the head of the chick and the regurgitated food pours into the chick's mouth.

Penguins form a ballet of constantly changing shapes as they preen and waterproof their plumage.





Left: A lone juvenile decides against early morning fishing and trudges back up the landing rock to enjoy a leisurely preen in the sun.

Right: Fencing for a future, members of the Southland Forest and Bird branch hope to protect part of a yellow-eyed penguin breeding area from grazing animals and human intruders. Nowhere on the east coast of the South Island is there more than a few metres of unmodified coastal forest which is inhabited by penguins.



A call from a neighbouring penguin elicits this response from a sleepy yellow-eyed.

Photographic Exhibition

Photographer Dean Schneider is to hold an exhibition on Hoiho and the destruction of Solomon Islands rainforest at the NZ International Festival of the Arts, to be held at the Harbour City Centre, Wellington, March 19-26.



Beginning again in humility

by Peter Hooper

The recent announcement of the new Conservation Department and Ministry for the Environment brings new hope on the horizon. At last Aotearoa has been assured of the stewardship her natural landscapes have long needed. Bark Bay, Abel Tasman National Park. Photo: Greig Royle

The pressure of human need upon environment has been with humanity since ancient times: deforestation, the silting of rivers, fire, monoculture exhausting soils. For modern man it was the industrial revolution in western Europe two centuries ago which, in its hunger for fuels and metallic ores, flayed alive significant areas of the fragile lithosphere.

In our own time reaction has come. From initially setting aside tracts of habitat for the hunting of wild animals, we have come to understand, with the aid of science, that landscape must be protected for its own sake. This is an enormous extension of ethical comprehension. In terms of self interest, it is only commonsense that we should care for the life support systems of earth upon whose communities our own survival depends.

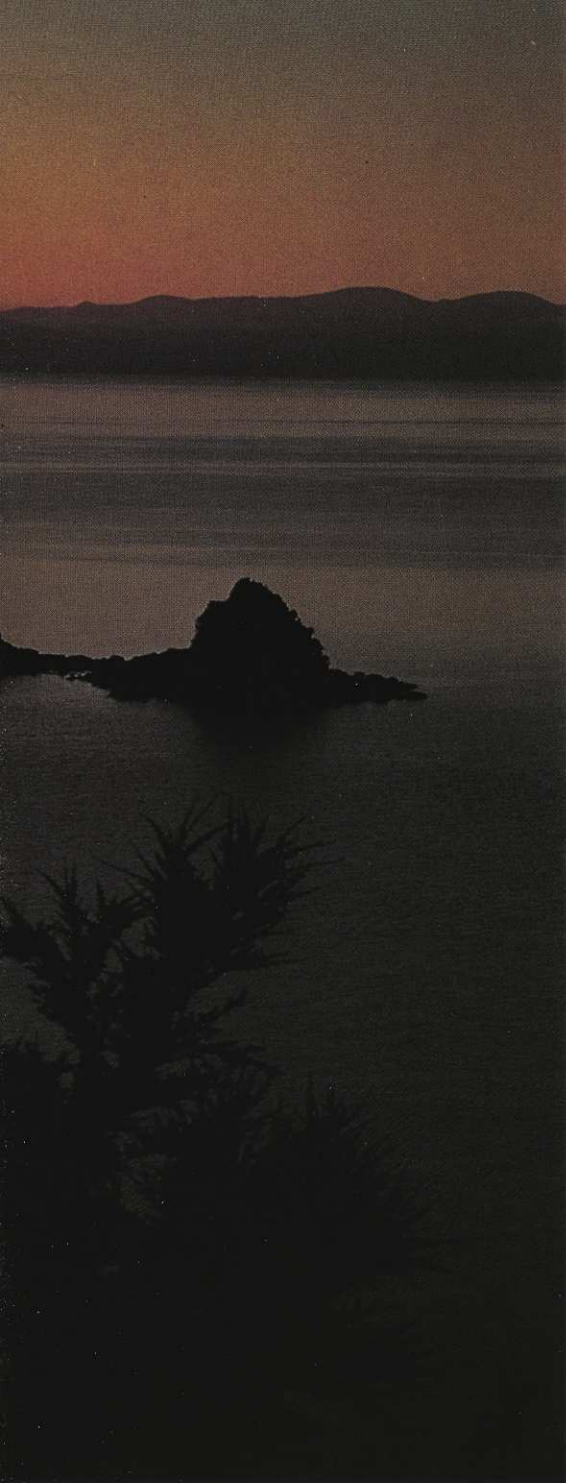
Following that recognition came a period of conflict between thinking entrenched in exploitative processes and new claims to rescue and restore wounded environments.

Here in New Zealand, as elsewhere, the drama has been enacted.

In 1981, when my essay *Our Forests Ourselves* was published (John McIndoe), I wrote with cautious optimism: "In the course of this essay I have endeavoured to trace the outlines of how, over 150 years, the European invasion of New Zealand affected our landscape. The imposition of an alien culture in no way related to the indigenous people of the land itself produced attitudes of mind which blinkered New Zealanders for generations to the real opportunities before them. Time alone could remove those blinkers, and is now doing so."

At that time I could not have expected that within four years a Government would decide to establish a Department of Conservation, that the principle of a nature conservancy as enunciated in the Maruia Declaration of 1975 would be within the bounds of reality.

The late seventies saw widespread apathy and cynicism about future direction in New Zealand, and against this background it was not obvious that revolutionary environmental values were taking root. The untiring work of thousands of dedicated



activists at many levels in groups throughout the country helped to promote Labour's 1984 election promise to establish a department of conservation.

The Cabinet decision on 16 September last to do just that will be recognized as one of the great decisions in the history of our relationship with our country. A wheel has come full circle: after a century and a half of European impact, Aotearoa has been assured of the stewardship her remaining natural landscapes have long needed.

The decision is of international importance and will be widely acclaimed as such. There is no force on earth that can prevail against a great idea whose time has come.

To quote again from *Our Forests Ourselves*: "The time has come, not to forget, but to forgive ourselves the past, to begin again in humility to relate to our land. Nature is not ours to 'conquer' but a community in whose life we share."

The richness of that community is spelled out by the Government decision to include within the ambit of the new Department all national parks, reserves, wildlife, wild and scenic rivers, historic places, protected inland waters, protected indigenous forests, forest parks and other multiple-use state forest areas not required for wood production. Specifically, as steward and protector of such lands, the Department will not be confronted with the problem that for so long beset the Forest Service in endeavouring to meet some conservation requirements while giving its main energies to the management of forests for timber production.

Some have seen this as 'locking up' natural lands, ignoring that such provision will ensure water and soil protection (with consequent downstream benefits), biological conservation, outdoors recreation and tourism, and most importantly, handing on to succeeding generations their

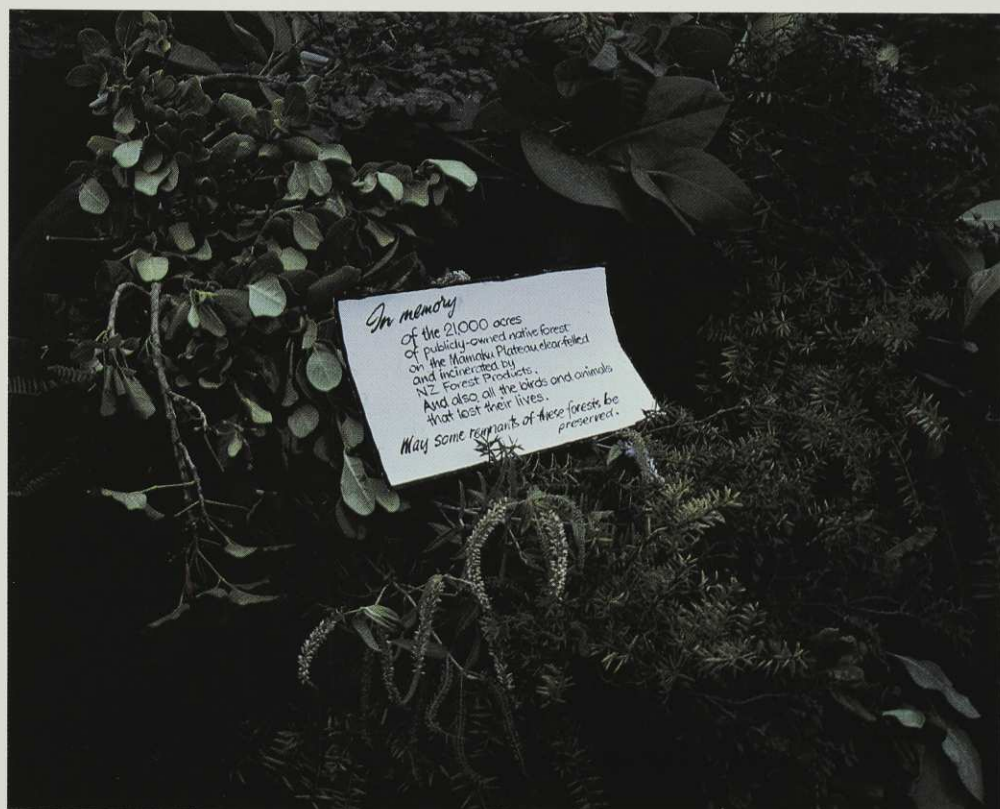
heritage of natural space and beauty for the growth of body, mind and spirit.

Between developers and conservationists there had long been energy wasted in conflict. The time has come now for a reconciliation of attitudes. The efficiency of commercial state operations should be able to proceed within clearly defined limits. Conservationists within Governments invariably saw top jobs go to development-oriented officers, but will now see their own careers open to promotion within the Department of Conservation.

It is appropriate to note that during the heat of controversy over past years conservationists have not always felt it politic to acknowledge progressive work that was done within the purview of the department of Lands and Survey, the aegis of the Forest Service and the Wildlife Service. It is timely to acknowledge such contributions to public education that have helped to redeem past errors and make possible a new understanding of land care.

Among the architects of the final victory substantial credit must go to Dr Michael Cullen who made sure that the idea of a nature conservancy became Labour Party policy; and Russell Marshall and Phillip Woollaston who set up the Environment Forum and the Working Party, and then travelled the country expounding principle and practice.

I can think of no other modern popular movement in New Zealand which has generated more enthusiasm and commitment to a great cause than has the cause of environmental protection over the past decade. It has been a rich experience to have shared in that great upwelling of democratic energy, determination and hope that brought together workers and students, men and women old and young, farmers, academics and unemployed. They talked incessantly, wrote thousands of submissions to endlessly proliferating committees, they took to the streets, lobbied



Will the new administration bury past exploitative attitudes? Logging wreath, Mamaku Plateau, Easter 1983.



Cultural use and misuse: Maori totara carver; felled kauri.

officials, tramped the length and breadth of the country, sang, sweated, and were often disheartened — but they did not give up.

In the hour of victory, some will see new opportunities for service in channels now being opened: more careers in existing parks and reserves and their ancillary services for tourism. Most specifically for the Maori people will be the Conservation Department's responsibilities for the protection of some coastlines and foreshores, especially in Northland.



One of the architects of the final victory: the Minister for the Environment, Russell Marshall.

While with respect to indigenous forests the Department's powers will be all that could be wished for, the same cannot be said of all other natural habitats. High country tussock grasslands (subject to pastoral leases) could be administered by a commercial corporation although final decisions had not been made at the time of writing. There are other areas of non-forested Crown lands where practice has not

yet been clarified, including land development blocks and also coastal waters.

A new concept of land stewardship has yet to be enshrined in law and seen to work in practice. Conservationists must not assume that all the problems have been overcome; a substantial body of opinion still needs convincing that a nature conservancy will in the long run serve the health and wellbeing of the whole country and all its people.

Some years ago one of Colin McCahon's paintings bore the legend: "A land with too few lovers." I am sure that McCahon himself would gladly see the comment relegated to history.

Once again in their own land New Zealanders can stand tall. In spite of domestic problems of social and racial inequities, wanton violence, and reactionary dogmas, it is possible today to admit of ideals becoming practical realities in a way that was not possible even two or three years ago.

There is a new spirit abroad, a new pride in being a New Zealander, in standing up for values that need championship: concern for social justice beyond as well as within our borders; a facing up to unpopularity in making a stand against nuclear weapons. The role played by women in the conservation movement has been incalculable, and in itself a thrust towards the establishment of a Ministry of Women's Affairs.

We Shall Overcome, the folk song popularized by Joan Baez in the sixties, was lost to sight in the seventies. In a real sense, we can affirm the words again today.

We are not helpless spectators of our

own fate. We have proved that we can change our world for the better. A sense of unity is no longer an exercise in self-deception, it is a reality.




No other modern movement has generated as much enthusiasm over the past decade as the environment movement. Forest and Bird members here attend the opening of Te Henga Reserve, Auckland, on October 28, 1979.

An holistic vision of society as a healthy organism within the natural environment already stirs to life in Aotearoa.

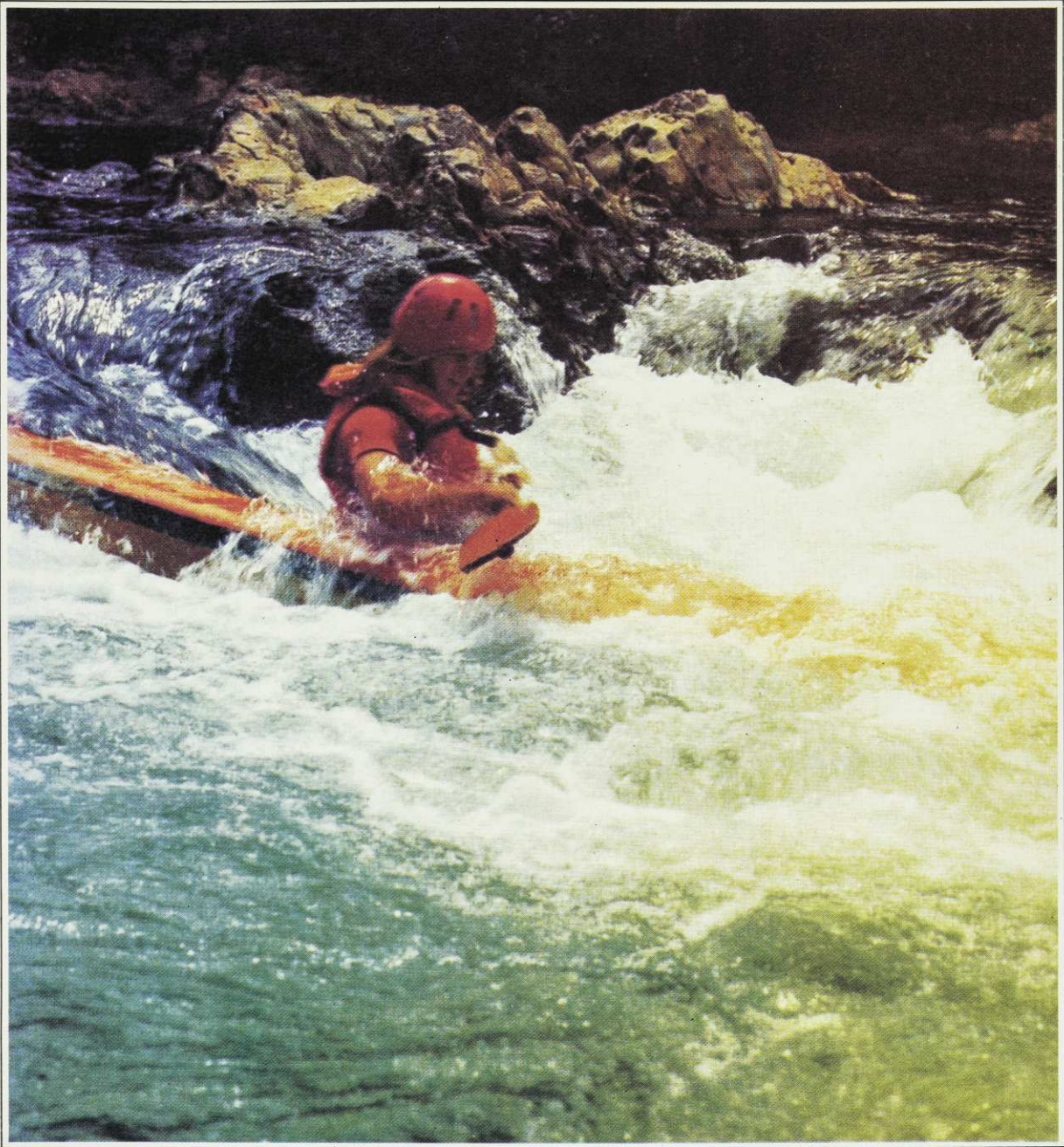
Tokomaha nga ahuatanga o te whenua. Tiakina.

The land has many forms. Look after it well.

With humility, we know that we have begun.

Peter Hooper is a fulltime writer who lives near Greymouth. He has had a longtime interest in conservation and is at present the national councillor for the society's West Coast branch. 

SHELL IN NEW ZEALAND



Shell continues its support of youth groups, including the Outward Bound School at Anakiwa.

Business must achieve its economic objectives in order to survive and to grow; but its survival is dependent on its acceptability to society and its environment. Shell, recognising its responsibilities as a corporate citizen within the community,

continues to expand its contribution in areas devoted to: preserving the environment, fostering youth development in sports and the performing arts, in all areas that develop the talents and resources of New Zealand for the benefit of all New Zealanders.

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The arid alpine garden of Inland Marlborough

by Peter Williams,
Botany Division Regional Station
DSIR, Nelson.

Half-way between Christchurch and Wellington the plane passes directly over the highest point in New Zealand outside of the Southern Alps, the 2885 m Mt Tapuaenuku, on the Inland Kaikoura Range. To the east, in the valley of the Clarence, you can clearly see a geological fault line separating these mountains of shattered greywacke from the lower limestone hills forming the Chalk Range. As the land was uplifted during the Kaikoura Orogeny, the streams cut downwards forming chasms and gorges on the flanks of the main range. Many cut right through the limestone, polishing the hard layers of the walls to a pearly lustre. Calcareous rocks are a special feature of this area, for they are generally rare in the mountains of New Zealand. Before the limestone was deposited though, volcanic magma had extruded into the older greywacke as it accumulated. The highest peaks of the range are now criss-crossed with dykes of solid igneous rock, which weather to talus of a pinkish colour studded with large semi-pervious crystals.

Hottest and driest

These mountains thrust up into one of the hottest and driest regions of New Zealand. Blenheim, 60 km away, is the sunniest place in New Zealand, yet it receives only about 660 mm of rain per year, half that of Wellington for example. No wonder then a visitor would bake in the mountain gorges, but for the funneling of valley wind, the afternoon shade and the continual seepage of moisture from crannies in the rock walls. Yet in winter the gorges freeze solid for weeks. The low rainfall has an important effect during the winter too. Insufficient snow falls to build ice glaciers, despite the altitude, and the high slopes have only a relatively short period when they are blanketed with snow against the daily cycle of rock-shattering freeze and thaw. These conditions generate vast amounts of rock talus, with some chunks as big as houses, to accumulate as moving tongues of debris. These resemble the moraines of true glaciers, similar to those which must have formed these high basins during the Ice Ages.

A landscape transformed

The early colonial explorers of this land remarked on the absence of trees and we can probably attribute this in large measure to Polynesian burning. We know from breaking open surface rocks and measuring the thickness of the outside weathered layer or rind — just as on a mature cheese — that many lower slopes have been unvegetated for several hundred years.



Helichysum coralloides resembles coral, as its name suggests. It is confined to Marlborough. Photo: P Williams

However, one striking erosion feature of the inland Clarence has a more recent origin. Late last century Marlborough was smitten by a rabbit plague, aggravated by burning and overgrazing of the native tussock grasses. In the area now called "The Desert", run-off stripped the bared topsoil completely and carved into the deeply weathered mudstone below. Kanuka has only slowly re-colonised, to form a sparse woodland. These are the most inland stands of tall trees in the Clarence valley.

The only extensive areas of forest are in the north-east. Mountain beech is the main species, but there may be broadleaf, putaputaweta, lancewoods, coprosmas and other shrubs. Nearby, on limestone screes of the Chalk Range and as far south as the Branch river, are woodlands of Hall's totara, which evoke thoughts of North American mountains. At higher altitudes, Hall's totara grows in gullies with mountain lacebark which produces masses of large white blossoms in the spring. Alas, the fires and introduced animals of the Europeans have pushed this beautiful mountain tree back into small relict pockets. Scattered individuals and dead trunks amongst the montane scrub, hint at a more glorious past.

Perched on ledges and shady faces in the gorges, are more diverse forests of broadleaf, akiraho (*Olearia paniculata*), small-leaved kowhai, three finger, lancewood, and the rarer fierce lancewood. In these sites, and riverbeds where sheep and cattle are excluded, large bushes of pink broom (*Notospartium carmichaeliae*)

grow. In the Jordan valley at the northern end of the range there are groves of weeping broom (*Chordospartium stevensonii*) which has pendant sprays of pinkish, lavender flowers. These two are endemic to north-eastern South Island; but they are in the same family as the more familiar, introduced, yellow-flowered broom. Until recently these brooms all grew together along stream banks and bluffs over quite a wide area. However farm development and the scorched earth practice of weed spraying from helicopters has now forced the native brooms to back into these mountain strongholds.

Pride of Marlborough

The daisy family holds pride of place for species confined to north-eastern South Island. Most of them are seen in summer, spotting the bony landscape with yellow blooms. On the coast, or walking up a rocky gorge, you would first meet the shrubby Marlborough rock daisy (species of *Pachystegia*), with thick leathery leaves and large globular flowers of typical daisy form. On nearby stable bluffs or gravels you would come across masses of the low shrub *Brachyglottis monroi* with wavy-margined leaves and covered in bright yellow flowers. Amongst the riverbed boulders could be low cryptic plants of *Helichrysum depressum*, looking deceptively like bits of stranded driftwood. Several other species of woody *Helichrysum* similarly have small leaves with glossy outer surfaces and hairy undersurfaces

pressed closely to the stem. The most widespread one is *H. intermedium* which appears as blackish patches on the bare cliff faces. *H. coralloides* is confined to Marlborough and resembles coral as the name suggests. Its grey-green branches are as thick as a little finger, and their very tips support bright yellow flower clusters, not unlike tiny sea anemones. Many other daisies are herbaceous. *Ewartia sinclairii* has a restricted geographical distribution, but its small, soft, grey-green leaves and masses of white flowers often festoon moist, shady banks. *Raoulia cinerea* is another plant endemic to the north-east, that has only recently been divested of its rare and endangered status because it was found to be more common than previously thought. One has to look in precisely the right sort of site to find it; creeping amongst sharp, angular gravel on flat ridges and spurs at high altitude. More widespread at high altitudes are cushions of *Haastia pulvinaris*, literally Haast's cushion, but more commonly known as vegetable sheep. Their roots squeeze into nooks and crannies on the most inhospitable looking terrain, almost to the summit of Mt Tapuaenuku.

Climbing plants

Despite the great range of forms and habitats occupied by members of the daisy



Rabbits, burning and overgrazing have transformed inland Clarence; hence the term "The Desert" to describe an area now dominated by introduced briar. Kanuka has only slowly returned to the area. Photo: P Williams

family on the Inland Kaikoura Range, none of them are scramblers or climbers. This life form is nevertheless important in montane regions, perhaps because there are extensive areas of open ground or low shrublands dominated by matagouri (*Discaria toumatou*), coprosmas, cassinias and hebes, and snow totara (*Podocarpus nivalis*) at high altitudes. These provide the weak stemmed plants with a diversity of "climbing frames". A few, however, seem less dependent on having support, and either form distinct mats or simply loll about on the landscape.

Creeping poheuhue (*Muehlenbeckia axillaris*) binds almost any stony ground, but *M. ephedroides* is more choosy. This strange plant produces masses of fine, whippy, leafless, dark blue-green branches that protrude vertically from coarse talus. Equally leafless at first glance, *Clematis afoliata* forms entanglements like springy balls of string. These hang from ledges or cliff faces quite unsupported other than by the mysterious, internal logic of the

clutching tendrils. These entanglements are yellow-green, and the whole mass can be covered with starshaped flowers of similar colour in early summer. Another species of leafy clematis also has similar coloured flowers, while a third has flowers of pale purple. The flowers of *Parsonsia capsularis* are particularly colourful in these inland regions. They soften the spiny matagouri with a loose net of lilac hue. The three species of lawyer (*Rubus* spp.) may also be colourful, both in flower and in their barbs, but these are a horror to the traveller off the beaten track.

Complex scree plants

When you do climb out of the gorges onto the open scree slopes, the effort will be rewarded with sights of some remarkable plants. Scree slopes are habitats of temperature extremes, but they have one less obvious feature that makes plant life possible; beneath the coarse rocks of the scree surface are finer gravels and sands through which cool water percolates. Thus moisture does not limit plant growth, and neither do temperature or light on the frequent sunny days. Photosynthesis and transpiration can therefore proceed at near optimal rates. To ensure they absorb enough carbon dioxide from the atmosphere, many scree plants have thin-skinned and finely divided succulent leaves. Their resilience and trailing rhizomes and roots enables them almost to move with the mobile scree. Many are annuals or biennials, so that even as they are destroyed over winter, seeds cast in the autumn lie poised to renew the populations come summer's warmth.

Many scree plants are found throughout eastern South Island, but several are special to the Kaikoura region. The handsome *Epilobium forbesii*, for example, sprinkles the fine grained scree with low rosettes of downwardly curved glandular leaves. These glistening clumps support pink flower buds that turn white as they open out to a full 1 cm diameter. Large flowers, up to 2 cm diameter, are sported by one of our two native species of convolvulus (*C. fracto-saxosa*), literally the one that grows in broken rocks. The flowers are a small version of the "granny pops-out-of-bed" we played with on the way home from school. But there the similarity ends. Rather than bright green the leaves of the rock convolvulus, covered in soft, greyish hairs, match their surroundings. The cryptic colour of these plants makes them difficult for us to see, but it does not deter the large alpine grass-hoppers, that leap and tumble about the scree, from feasting on the succulent leaves.

Large reserves needed

These fascinating natural features and biota can all be found within the Tapuaenuku Ecological District, of which the Inland Kaikoura Range forms the high core. This land is nearly all Crown Lease and only one Scenic Reserve exists within this district, or indeed within the whole catchment of the Clarence River (Timmins and King 1984). This strangely irregular shaped reserve was gazetted in 1962 in recognition of the landscape values of the high

peaks. The biota are just as important to conserve, but reserves will have to be large, and cover a full altitudinal sequence. Ideally, they should link features such as the Hodder Gorge and Winterton Basin in the west with the Hall's totara forests and kanuka stands in the east. Then there should be corridors across the Clarence to similar large reserves on the western slopes of the Seaward Kaikoura Range — an area yet to be botanically surveyed.



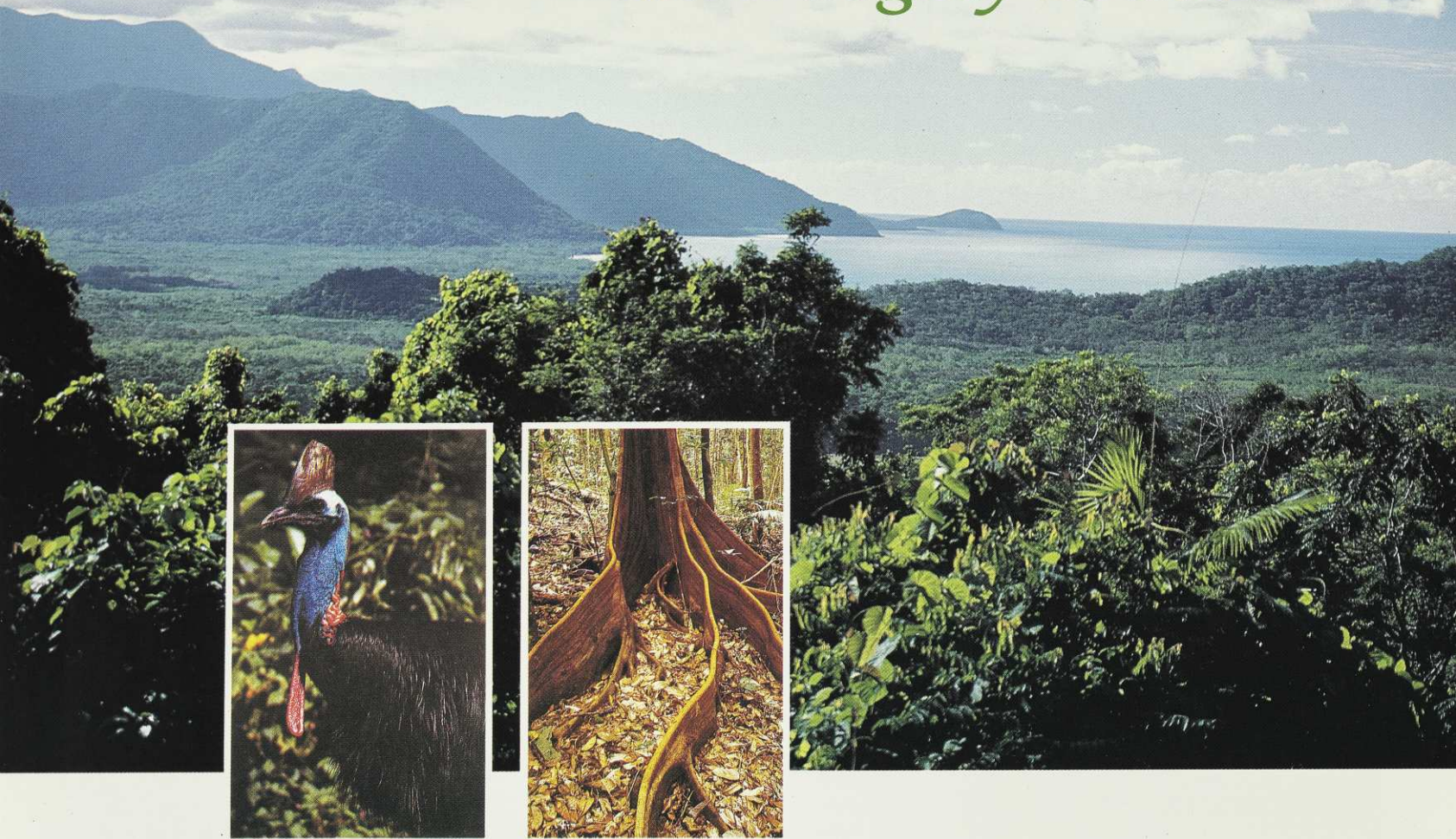
Many of the plants of inland Marlborough are found in specific sites, such as *Raoulia cinerea* which creeps among sharp, angular gravel on flat ridges and spurs at high altitude. Photo: P Williams

It takes some effort to fully appreciate these landscapes and their inhabitants. Firstly, you have to make your way from the coastal State Highway 1 up the long dusty inter-montane valleys, to the lower reaches of the tributaries. Here you will have to take to the riverbed on foot, and be prepared for many crossings. But when you've experienced this remote, wild country, you will be able to share the sentiments of the early geologist McKay, when he reported on the Inland Clarence as:

"... impressing the explorer with the massive solidity and giant proportions of the great cliffs rising from the deepest part of the gorge. Yet high above in the sky these terminate in clear-cut pyramidal peaks, gables and roofs, massive below, light and airy above. Architectural in aspect, these vertical walls and steep slopes, bearing just a due proportion of flowering plants and gorgeous shrubs, may be seen and admired, but are not easily described; and when a peep of sky dropping west from the zenith is seen, filled by the glistening snows and jagged summits of Tapuaenuku, art may strive in vain to copy the beauty, the grandeur, and the majesty of the picture." ✎

This article first appeared in the NZ Alpine Club Journal (1985)

Queensland tropical rainforests: can a tragedy be averted?



Tropical rainforests are the most diverse terrestrial ecosystems on earth, rivalled only in complexity by coral reefs. Covering only five percent of the world's total land surface, these rainforests contain 50 percent of all our plant and animal species. Rainforests are our major gene pool, yet these vital ecosystems are fast disappearing. Conservation Director Dr Gerry McSweeney, who went to Australia last year on an Anzac Fellowship, investigates the problems posed by development to Queensland rainforests.

If United Nations figures are accurate and 30 hectares of tropical rainforests are disappearing every minute, I will be unlucky enough to witness the loss of virtually all of them during my lifetime.

In most of the world's poor tropical countries, these forests are being clear felled for crops and living space. Even when areas are not stripped bare, logging often devastates the forest with little hope of recovery except in the very long term — provided surrounding forest remains as a seed source.

Australia is not a poor country. In fact it is the only wealthy industrialised nation with these biologically-rich forests. Sadly, there are many Australians who do not regard the forests as the tremendous assets they are.

Australia is the world's driest inhabited continent. Today only about one thousandth of its total land surface supports tropical rainforest, yet these harbour around 1,100 species of plants, more than a third of Australia's marsupial species, and 60 percent of the country's bat and butterfly species. An immense diversity of plants and animals crowds within the 700,000 hectares of tropical rainforest that remains between Townsville and Cooktown in the far north of Queensland.

A refuge for plants

These tropical rainforests are relics from Australia's past when it used to be part of the great land mass of Gondwanaland. The

plants found within them are closely allied to those of India, Malaysia and Fiji. New Zealanders would discover familiar podocarps and kauris scattered through the immense diversity of canopy trees.

Many species date back to the origins of the earth's flowering plants, making Queensland's forests internationally significant as a major centre of survival for such primitive plants. Although they make up only about a thousandth of the area of tropical rainforests worldwide, Queensland's forests contain 13 out of 18 of the world's primitive flowering plant families — the highest concentration on earth.

Spectacular cassowary

One special animal found within these forests also dates back to the Gondwanaland era. The spectacular cassowary is a fruit-eating, flightless bird which lives wholly within the rainforests. It is a ratite, the most primitive class of birds on earth, a family which includes kiwi, moa, emu and ostriches. Of all the ratites, the cassowary perhaps most closely resembles many of our moa species because of its preferred rainforest habitat.

Northern Queensland until recently was linked with New Guinea across Torres Strait, where cassowaries also occur. New Guinea shares many of the marsupial mammals found in the North Queensland rainforest, and there has been sufficient time for many of the Queensland marsupials to develop into separate species. Aus-



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Left: Daintree coastline north to Cape Tribulation. Between the fringing coral reef and the 1375 metre summit of Thornton Peak lies the richest terrestrial community in Australasia — wet lowland coastal rainforest. Photo: G. McSweeney

Inset left: Cassowary which inhabit Queensland's tropical lowland rainforest date from ancient Gondwanaland and probably most closely resemble our forest-dwelling moa. Photo Hans and Judy Beste, from Greater Daintree

Inset right: Tropical rainforest, Daintree. Butressed trunks and mat root systems scavenge every available nutrient from the forest floor. Photo Grant Dixon, from Greater Daintree

Fig 1: Present distribution of Australia's tropical rainforests, all of which are considered suitable for nomination as a World Heritage site. From Australian Tropical Rainforest Life, by Clifford and Dawn Frith.

Inset right: A grey satin ash *Cleistocalyx gusavioides* at Downey Creek zoned for logging. Aboriginal people formerly used these trees for shelter. Photo: Greg Borschmann



Australia's two tree kangaroos are found only in the rainforests, as are three species of possum.

Two areas of lowland forest in Queensland have become household names throughout Australia as nationwide efforts have been mounted to save them from logging, roading and clearance: Daintree Forest and Downey Creek. The threats to these two forests are indicative of the threats to all of Australia's remaining tropical rainforests.

Daintree — where reef meets rainforest

Just north of Cairns lies the only coastal rainforest wilderness left in Australia — the 120,000 hectare Daintree Forest. Here is a diversity of landscape and ecosystem unmatched even by New Zealand's very diverse standards. The Great Barrier Reef, largest living structure on earth, comes close to the mainland near Daintree. The mainland coastline is fringed by a spectacular coral reef which is building progressively outwards.

Behind the surf but below high water mark are mangrove forests containing no fewer than 28 different species of mangrove. These merge into Queensland's most diverse tropical rainforest, complex mesophyll vine forest, which only grows on fertile lowland soils and has now largely been cleared for farms. Typically, one finds vines, birds nest ferns, fan palms, strangler figs and a huge diversity

of buttressed canopy trees.

With increasing altitude, lowland forest merges into montane tropical rainforest clothing the mist-shrouded peaks of the 1375-metre high Thornton Peak. This is deluged each year by a rainfall equivalent to that which falls at Franz Josef — 5,000mm (200 inches). Behind the range, rainfall declines rapidly and within 50km the tropical rainforest swiftly gives way to eucalypt forest, and finally the arid bottle tree shrublands of the lower Cape York Peninsula.

Shrubs, not scrub

A re-education programme is underway in New Zealand to persuade people to use the term "shrubland" rather than the derogatory "scrub", thus recognising the great diversity of native plants that "scrub" contains. (A forester recently told me that "shrubs" only grow in suburban gardens!). In Australia it is incredible to find people referring to tall tropical rainforest scattered up Australia's east coast lowlands as "scrub".

Prior to European settlement, Aborigines had pushed back the forests to the wetter lowland and mountain areas with fire. As in New Zealand, when Europeans arrived the diverse forests of the fertile lowlands went first. Timber extraction was followed by complete clearance for sugar cane. The last forests to go have been those of the mountains which contain few timber species and grow on poor soils. Predictably,

these low value montane rainforests form the bulk of the 15 percent of Queensland's tropical rainforests protected within a network of superb but discontinuous national parks.

Last unroaded stretch

The Daintree coastline is the last unroaded stretch of Australia's eastern seaboard. In a spirit reminiscent of the pioneering days, the local Shire Council is pushing a rugged road through the heart of a thin tiny strip of vine forest between mangroves and mountains. The cost is enormous and the environmental damage appalling. The forest is destroyed and sediment from slips on the road — only a four-wheel-drive track — is smothering the fringing coral reefs.

Behind the road come land speculators, carving out rainforest subdivisions for tourists. The forest is also threatened by open-cast tin mining. The Shire Council seems mainly motivated by the national outrage it has caused, while conservative Queensland politicians are using the protest as a rallying point against any outside interference in the state's affairs.

Prolonging mills' demise

At Downey Creek the threat is logging — primarily an attempt to prolong the inevitable demise of the antiquated sawmills which have been cutting far in excess of the sustainable yield of timber. At least

half of the sawmills will run out of rainforest timber by the end of 1986. Meanwhile they will wipe out the richest unmodified tropical rainforest in Queensland. The Queensland Forestry Department heavily subsidises logging by building access roads and charging very low royalties for timber. It is stubbornly attempting to develop a sustained yield logging system for the forest, despite the fact that it has now largely gone. However, just as on the West Coast, the demands of the sawmilling industry far exceed the natural regeneration of the forest, even if selective logging trials prove successful (which seems unlikely).

Australian conservation groups have united to seek protection of the country's last remaining tropical rainforests. They believe that if wealthy Australia is not prepared to protect them, there is little hope that less affluent countries will do so.

The most successful and effective of these groups, in my opinion, is the Wildlife Preservation Society of Queensland, which operates on a similar level to Forest and Bird. Most Australian groups are dominated by their membership in the large cities; however, WPSQ is made up of a large number of branches spread throughout small rural centres of Queensland. Each of these branches develops a strong regional identity and runs field trips and meetings, focussing community awareness on nature and conservation problems.

Alternatives to logging

Rural electorates are immensely powerful under the Queensland gerrymander, and therefore the WPSQ's high standing has helped it influence politicians much more than urban-dominated groups — especially those from other states.

The battle to save Downey Creek is spearheaded by the WPSQ Innisfail branch led by Yvonne Cunningham. The thrust of their campaign has been to identify job alternatives which do not threaten the rainforest. Over-mature state plantations of hoop pine (*Araucaria cunninghamii*) and Queensland kauri (*Agathis robusta*) have been suggested as an immediate alternative to logging Downey Creek. In the longer term there will be a huge increase in the supply of these plantation timbers in North Queensland over the next ten years. However, the Forestry Department is resisting a change to plantation timbers, determined to prove that it can "manage" natural forest even though its trial covers virtually all the remaining vine forest.

Tourism is booming in the sunny climes of North Queensland. The WPSQ has capi-



Left: Buff breasted paradise kingfisher, the most spectacular of Australia's ten kingfisher species. Birds migrate from New Guinea in the spring and nest inside chambers in termite mounds on the tropical rainforest floor.

Photo Ralph and Daphne Kellar, from Greater Daintree

Right: Yvonne Cunningham, of the Innisfail branch of the Wildlife Preservation Society of Queensland has spearheaded efforts to protect Downey Creek and use it for nature tourism.

Photo: G. McSweeney

talised on this by preparing plans for a \$5 million rainforest nature tourism centre for Downey Creek, featuring a canopy walkway. This would enable tourists to approach the most exciting level of a tropical rainforest — especially at night. Only in the canopy can the great diversity of flowers, fruits, orchids and perching ferns be seen. Numerous mammals, bats, birds and butterflies visit this zone throughout the day and night. Canopy walkways are already in operation in some Malaysian national parks where they have proved very popular.

Yvonne Cunningham is immensely pragmatic when questioned about the effect of the walkway on the forest.

"3,000 of the 8,000 hectare Downey Creek catchment is scheduled for logging. More than 1,000 hectares has already been cut. Our nature tourism centre could save this superb forest from destruction. The visitor facilities could be developed very carefully — it would have to be because if we damage the forest no-one is going to come here to see the trees and the wildlife."

Will they act?

Her proposal is gathering support throughout North Queensland from the tourist industry, local Chambers of Commerce and even local members of Parliament. However, the question is whether they will act to stop the logging at Downey and road expansion at Daintree before the remain-

ing rainforest is irreversibly damaged. Even the forester in charge of the Downey Creek logging operation, Tom Just admits "This bush will never be the same again because the big trees will not be there."

Nationally, efforts to save Queensland tropical rainforest focus on getting the forests accepted as a World Heritage Site. Already they have been recommended for such status by the Australian Heritage Commission. However, mindful of the Franklin river dam debate in Tasmania where the Federal Government overruled the Tasmanian Government and saved the Franklin, the Queensland Government steadfastly refuses to allow its rainforests to be nominated as a World Heritage Site.

Without State Government consent, the Australian Federal Government will not intercede to save the tropical rainforests or nominate them for World Heritage Status. And so the battle rages.

Queensland is a remarkably lucky state in a very lucky country. It is huge in area, rich in resources and immensely scenic and diverse. It is also one of the few politically stable and physically safe countries where visitors can discover and enjoy the richest of tropical rainforest ecosystems.

New Zealanders should be concerned for the future of Queensland's rainforests. They are some of the most accessible such forests for us and share many close links with our forests. Their continued unnecessary loss is a tragedy. 🦘

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Australian environmental groups have invited Forest and Bird members to write to the Queensland Premier urging him to protect Queensland's tropical rainforests. Write to Sir Joh Bjelke Petersen, Parliament House, Brisbane, 4,000. If you need more information don't hesitate to write to me. You never know, one day we might have to invite the Australians to reciprocate with our Government!

The author acknowledges the assistance of an ANZAC fellowship for a four month conservation study tour in Australia in early 1985. Queensland conservation groups and the Queensland Department of Forestry also provided generous help.



South-West support growing

Support is mounting behind the proposed South-west New Zealand World Heritage area advocated by conservation, recreation and tourism interests (see *Forest and Bird* November 1985). The West Coast and Otago National Parks and Reserves Boards have come out strongly in favour of the proposal.

Even more significantly, in early December the proposal was backed by the powerful Tourist Industry Federation — New Zealand's national tourism advocate.

Major advantages of this internationally-significant nomination are that it would ensure the co-ordinated, integrated protection, management and promotion of an extensive area of already protected natural public land—stretching from Mount Cook-Westland, south to Fiordland-Waitutu. Already the bulk (86 percent) of the 2.1 million hectares in the proposed area is either protected by policy or statute. Decisions on which parts of the remaining 14 percent will be protected are expected shortly — this includes the state forests of southern South Westland and the Red Hills of West Otago. Protected parts of these areas will be added to the World Heritage area at a later date.

Mana Island—a Wellington nature treasure house

The long awaited draft management plan for Mana Island is now up for public comment until 28 February 1986. This island is already nationally important for native wildlife and plants primarily because it is still free of introduced pests other than mice — its future potential however is enormous. Mana Island's remnant natural areas contain the threatened McGregor's skink, the gold-striped gecko and the giant weta along with the *Anogramma leptophylla* fern and Cook's scurvy grass. Sooty shearwaters and blue penguins also frequent its shores as do an increasing number of people, mainly for recreation and education as the island also contains several interesting historic sites.

The Society supports the plan and in particular recommendation that farming on the island should cease because it is uneconomic and that the island should become a haven for selected rare or endangered native plants and animals. A really exciting initiative which our Society supports is the proposed native plant planting programme. However, we do believe that there is a need to strictly control visitors going to the island as indiscriminate boat visits could spell disaster if rats were inadvertently introduced. Obviously the survival of existing or introduced nationally threatened wildlife hinges on keeping the island free of predators. Its overall management should naturally fall to the Department of Conservation. The Lands and Survey Department are to be congratulated on this excellent plan.

New deal for Kauri roading

Forest and Bird has achieved significant changes in the way that road works are to be planned and carried out in our internationally-treasured Waipoua Forest. Works Minister Fraser Colman finally conceded that the Society's criticisms of insensitive roadworks were correct after disclosure of an internal MWD report which also condemned the "upgrading" work. Before Ministry of Works bulldozer gangs are let loose along the remaining portion of the Waipoua Forest road they must now:

- complete a management plan of the entire route with full public involvement.
- undertake environmental impact assessments for each segment of the road to be upgraded in consultation with the Nature Conservation Council, F.R.I., Forest and Bird, MWD Environmental Design and other parties with skills in forest roading.
- conduct a staff-training seminar for all those in MWD involved in forest roading to explain the need for more care and to establish new techniques such as matting and single lanes around and between large kauris.
- restore damage to the forest wherever possible, i.e., remove seal and metal from base and roots, remove illegal dumps, revegetate machine-storage areas, etc.

Native plants and takahe more important than tahr and wapiti

Forest and Bird and the Deerstalkers Association have clashed over two introduced animal issues recently. One concerns wapiti and takahe, the other the future of the tahr, a Himalayan mountain goat. Early next year the Southland National Parks and Reserves Board are due to consider a proposal to re-establish the rare takahe in Fiordland's Stuart Mountains. At present this spectacular flightless rail is found in the Murchison mountains where it was "rediscovered" by Dr Geoffrey Orbell in 1948. Because numbers there are so low, Wildlife Service staff have been rearing birds in captivity with a view to establishing a second population in the wild — a move strenuously opposed by the deerstalkers who are worried that wapiti will have to be removed. The introduced wapiti competes with the takahe for the nutritious tussocks which form the bird's staple food.

Our Society gives its full support to the takahe liberations. Not only will it enable Wildlife Service to expand the takahe population but it will be insurance against the possibility that disease could wipe out the Murchison population. Although the Fiordland wapiti herd is the only wild herd in the country, the wapiti or elk is widespread in North America and increasing numbers of these large animals are being bred by deer farmers up and down New Zealand. It is sad reflection on the priori-

ties of some people that they should place a common introduced animal before the unique takahe whose numbers have dwindled to perhaps 200 birds. New Zealand has far too many endangered birds already and should do everything possible to rescue takahe from the brink of extinction. Himalayan tahr are capable of inflicting enormous damage on the high country (see *Forest and Bird* May 1984). The Forest Service is proposing to create a tahr management area between Arthurs Pass and Mt Cook National Parks, in which tahr herds will be built up for shooters' pleasure.

Canterbury University botanist Colin Burrows describes no fewer than 17 special alpine plants whose survival or distribution is severely threatened by tahr browsing. Tahr in the high country are an ecological disaster, along with any other grazing animals. This fact has been recognised by the Government — it has started to take sheep off severely eroded land, yet on the other hand it is proposing to build tahr numbers up.

At present tahr numbers are down to between 1000 and 2000 animals, and there is a very real possibility that they could be eradicated. In order to placate hunters, tahr numbers could be built up on much less important land — and some high country runholders are either doing so or propose to.

Forest and Bird opposes the tahr breeding area because:-

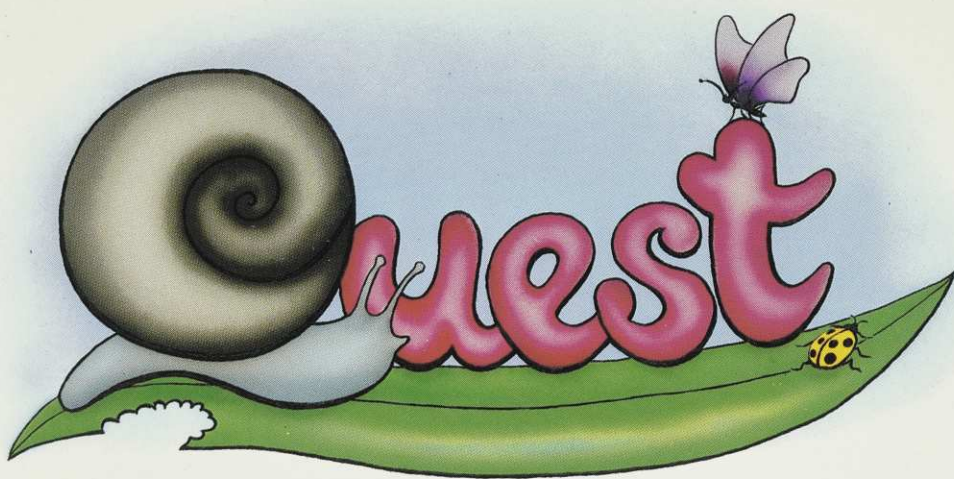
- Alternative areas to "save the tahr for shooters" have not even been considered.
- The area proposed for tahr management is of major ecological value containing a number of rare plants and unusual native plant and animal distributions even revealed by the few scientific surveys of the area to date.
- The area zoned for tahr management is largely a wilderness area and the proposal runs contrary to the operative management plan for this Crown land.
- The retention and development of a tahr herd in the central Southern Alps is likely to be extremely costly for the taxpayer.

Please write to the Minister of Forests, expressing your opposition to the tahr management scheme.

Kiwi reprieve at Aotuhia

If you want to get results — go straight to the top — Peter Winter and other Taranaki Society members proved the truth of this old adage with their recent success at halting Aotuhia shrubland clearance. They telegraphed direct to Prime Minister David Lange after they proved a number of kiwis were threatened by Lands and Survey's crushing and burning operations next to the proposed Wanganui River National Park.

(Continued on page 31)



Editorial

Congratulations to Quest reader **Karen Johnston** of Wanganui. Her winning entry for the Frank Alack Award is included in this edition. And the answers to last times brain teasers?

If you rearrange the letters of the scientific name for a hedgehog (ERINACEUS) you come up with RESCUE IAN.

Captain Cook's dumplings are the POOR KNIGHTS, islands supposedly named after a popular dish of the day — dumplings in gravy. Yuk!

Piers Hayman

Travelling Birds.

Birds can sometimes be given the most odd-sounding names, but 'godwit' must surely be one of the oddest of them all. Originally, it was probably 'Good-wight', 'wight' coming from the old Anglo-Saxon word meaning creature. The 'good' refers no doubt to the popular presence of godwits on the menu at many an Anglo-Saxon feast.

The Maori name for the bird is kuaka, and the fact that it has a Maori name at all shows that the godwit is not a recent import. In the past, English names were often given to New Zealand birds simply because the early settlers thought they looked like the birds back home, or because they were of the same family. In this case they are not only related, they are actually the same birds, for godwits breed in the northern hemisphere and come all the way down here for the summer. In fact they avoid winter altogether, for when they are nesting in Siberia and Alaska it is summertime there as well.

Halfway round the world is a long, long way for such a small bird to fly, and just why the godwits should choose to come so far is one of the many mysteries that still surround the subject of bird migration. It is thought that the direction birds take and the places they go were learned thousands of years ago, and that although the climate and the landscape may have changed since then, the birds still follow the old ways.

The reasons that they need to move at all have to do with the availability of food at different times of the year. A place that is good for breeding, with plenty of food for the new young chicks, may well turn into a barren icy waste later in the year, so



the birds must move to somewhere else when the season changes. In the case of the godwits, however, one would think that there must be plenty of suitable places that they could use between here and Siberia.

An even greater mystery is how they find their way. Studies and experiments have shown that migrating birds can recognise landmarks, can navigate by the sun or the stars, and some can probably even sense the direction of magnetic north, but there are also species in which the young birds leave before or after their parents and seem to be able to find their own way to somewhere they have never been before.


Godwits are among the migrant visitors

to New Zealand that come outside their breeding season, but there are also birds that come here to nest and return elsewhere in the winter. Notable among these are the cuckoos, although nesting is perhaps the wrong word for them as they do not build nests of their own. Both the long-tailed and the shining cuckoo lay their eggs in the nests of other birds, a habit, incidentally, that is by no means common to all cuckoos.

Here in New Zealand there is not such an extreme difference between winter and summer as there is in other parts of the world, so many of our native birds have no need to migrate. There are some that do, however, the most famous being the little wrybill, the only bird in the world to

have a beak that is curved to the side. Wrybills nest on the shingle river beds in the east of the South Island, but they spend the winter on the estuary and harbour mudflats in the northern part of the North Island.

Other New Zealand birds, like the South Island pied oystercatcher, are partially migrant, which means that some of them move north for the winter and others do not, as if they can't quite make up their minds. To further complicate the issue, there are some recent arrivals from Australia like the silvereye and the welcome swallow who do not seem to have developed a migration pattern here, although they do migrate in their Australian homeland.

All in all it may seem rather confusing, but migration is one of those fascinating subjects about which the more you learn, the less you seem to know! 



Most of the eastern bar-tailed godwits (*opposite*) arrive in New Zealand in September and leave again in March. They can be seen feeding on exposed tidal mud-flats and wet sand throughout the summer months. Numbers have been estimated at around 70,000 in the North Island and 30,000 in the South Island and Stewart Island. The bird in the foreground is in non-breeding plumage, the

other has the more colourful breeding plumage which you will see on some individuals towards the end of the summer. Each year some 10,000 or so godwits remain here for the winter as well, and it is assumed that these are non-breeding juveniles.

Shining cuckoos (above) have been known to arrive from the Solomon Islands as early as

August, but most of them appear in the second half of September. They can be seen wherever there are grey warblers nesting, for it is to the grey warbler that this little cuckoo entrusts the care of its own young. The English name does not appear anywhere in the shining cuckoo's song, but if you listen carefully you might hear the Maori name pipiwharaua.

The Frank Alack Award Winner.


This composition, entitled "The Parson Bird", was awarded first prize in the Frank Alack Award competition.

Silently alert, the tui sits, waiting patiently. His metallic green and purple plumage camouflages him from the rest of the garden. He is completely hidden from view, or would be, except that I can see his stark white throat feathers. A fantail passes merrily by, playing tag with his mate. Tui barely twitches, he knows the fantails, they're his friends. The sun penetrates through

the clouds for a moment, catching Tui's iridescent emerald wings and tail and yet, Tui knows nothing of this. His beady black eyes are watching, and waiting. Gently, a faint zephyr whispers through the lacey white features about his neck. He twitches again, and turns his head slightly to take in all of his surroundings.

Suddenly, he bursts into a song which sounds to me like the chiming of church bells, intercepted occasionally by the throaty coughs of the parson. As his song builds in strength, I see his throat pulsating with the energy he puts into the performance. Each lustrous note echoes around the garden, filling every corner with rich music. All the other creatures appear to hesitate, as if caught up in the

magic that surrounds them. When he has finished, I feel like giving him a standing ovation. But I don't. Instead I sit silently, watching.

Unexpectedly, he seems to catch sight of me watching him from the window. We stare at each other for what must be an eternity. Finally, it is he who breaks the spell. But he doesn't fly away. Instead, he hops over to the kowhai tree, and, still wary, takes a drink of nectar. 

Karen Johnston (15 yrs)



BY • SUE BELL.



August journals

Head Office would be very pleased to receive any spare copies of the August 1985 magazine. Please do not send in any of the other back issues, but if you have no further need for your August copy, it would be welcomed at Head Office. Send to RF & BPS, PO Box 631, Wellington.

Photographers!

Although the Society is well served with good illustrations, we are always in need of new material for the journal or for slide talks. If you feel you have anything which fits the bill and no longer require your photos, we would be keen to use them for our photo library. In particular we require slides of specific animals and plants, or of an event related to conservation — it could be a native forest burnoff, or conservation activities of members. Landscapes are not needed as much, although outstanding illustrations would be welcome. Please send in slides with location descriptions only to The Editor, RF & BPS, PO Box 631, Wellington. Appropriate credits will be given.

Correction

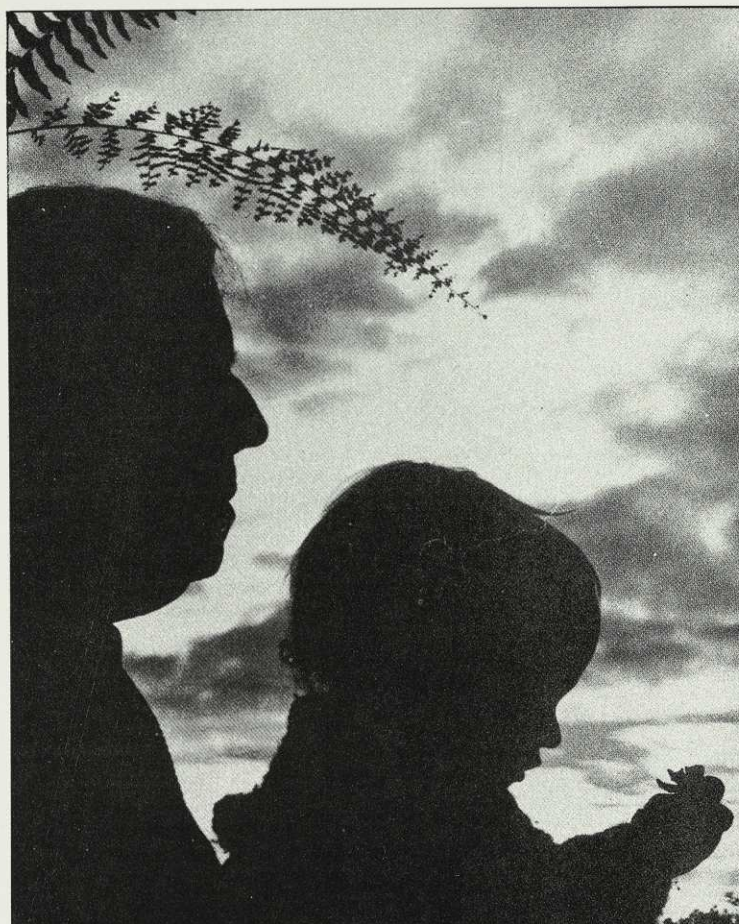
Please note that on pg 21 of the November magazine, the photo captions for the underwater plants were transposed.

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Queen Elizabeth II Scholarship Awards

Four post-graduate students have been awarded scholarships by the Society for their expenses in researching projects for work which will be of use in our conservation projects.

Phillip Seddon, researching for his PhD at Otago University will investigate the nesting requirements of the yellow-eyed penguin, and study how these rarest of penguins develop and interact socially. He is working in close association with John Darby of the Otago Museum, an expert who joins the Society in campaigning for the protection of the habitat of this unique penguin.

Graeme Elliott, continuing a study of breeding and habitat use of yellowheads, a threatened bird now found only in the south of the South Island and extremely rare north of Arthurs Pass. The broad aims of his study are to find out why yellowheads have declined, and what can be done to prevent any further decline.

Carol Bergquist, in her final year of PhD study, is studying the social behaviour of the tui in relation to feeding resources. She is researching in the suburban area of Auckland, in regenerating gullies and scenic reserves.

Alison Davis, a science graduate from Auckland University, is continuing her study of the N.Z. Shore Plover in the Chatham Islands. Alison has contributed an article to the last issue of *Forest & Bird* on Rangitira Island in the Chathams.

Southern Queensland and NSW Wildflower & National Park Tour September/October 1986

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(Conservation update continued)

Clearance of Aotuhia's kiwi-rich shrubland was the focus of a critical article by conservation officer Terry Fitzgibbon in our August journal. TV and newspaper coverage prompted other agencies to get involved in the fray. The Department must now gain Catchment Board approval before undertaking any further clearance. Also as a result of the public controversy a moratorium has been placed on further clearance until the DSIR and Wildlife Service has undertaken a wildlife survey of the shrublands earmarked for destruction.

The Society wants farming confined to already cleared lands which will tailor the "10 farm-\$10 million budget" down to more modest levels. The Society also believes the Matema-teonga walkway entrance is the appropriate western "gateway" to the Wanganui Park rather than a proposal for a visitor centre amidst the charred hills of Aotuhia.

Dr Gerry McSweeney, Conservation Director

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 12 in five bedrooms, single and double beds. Sleeps 18 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 \$14 single, \$18 double, Non-members \$20 single, \$25 double. Children 5-12 \$6. Continental breakfast available. \$4. (Day Visitors) All adults \$2, children 5-15 \$1, Family \$3 or \$5. Closed to day visitors but not House Guests Mon & Tues.

Bookings and Information Leaflet: Custodian, Bushy Park Lodge, Kai Iwi, RD8 Wanganui. Telephone Kai Iwi 879.

Okarito Beach NFAC Cottage

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

Patoka 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

Ruapehu Lodge is now available for MEMBERS ONLY, and all bookings must be made with the Society's head office, P.O. Box 631, Wellington.

Fees: Winter Season (1 June to 31 October and Christmas and Easter holidays \$8.00 per night. Summer Season 1 November to 31 May) Adults \$6.00 per night Children \$3.00 per night.

Full payment must be paid four weeks before occupation, (otherwise bookings may be forfeited) 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

Situated 72km from Balclutha on State Highway 92, Tautuku Lodge on the Society's 550ha bush-clad Lenz Reserve in coastal south-east Otago.

The lodge is fully equipped and accommodates eight or nine people. Bring with you food supplies, bed linen, blankets, towels, tea towels etc.

For rates apply to the Booking Officer Miss M. Roy, Papatowai, Wai-pati, RD, Owaka, enclosing a stamped addressed envelope.

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.

land. 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.

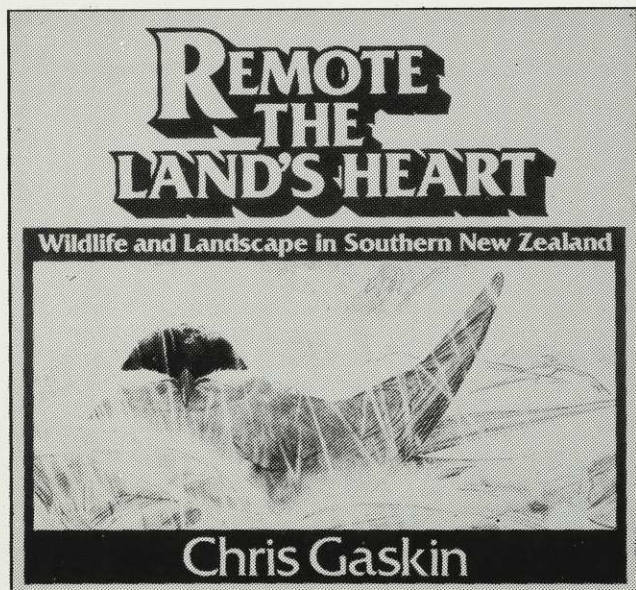
You will need food supplies, bed line, towels, and tea-towels.

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.

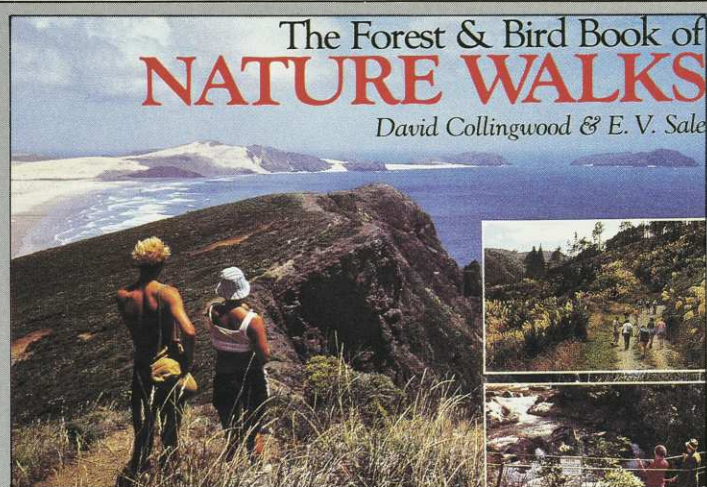
Different rates apply for winter and summer. For rates send an addressed envelope to the Booking Officer, Mrs R. Roley, 23 Stoddard Street, Mr Roskill, Auckland. Telephone Auckland 696-769 (evenings).



Chris Gaskin has both written and illustrated REMOTE THE LAND'S HEART, a unique and beautiful book on the *Wildlife and Landscape in Southern New Zealand*. The text is highly personal and informative. There are over 100 black and white illustrations plus 16 in full colour. The book includes superb illustrations of Otago Peninsula, Fiordland, the Southern Alps and Stewart Island: keas and yellow-eyed penguins, dolphins and seals, giant buttercups and rock daisies. \$34.95

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