

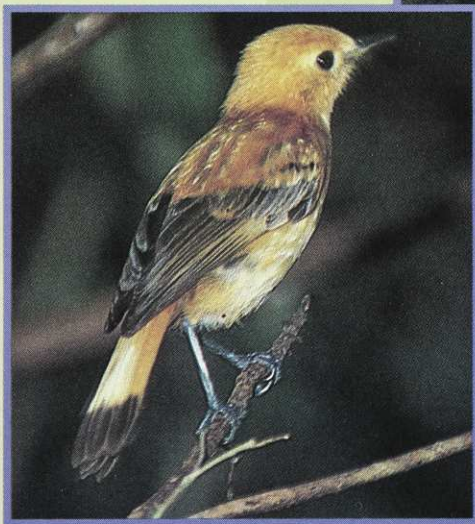
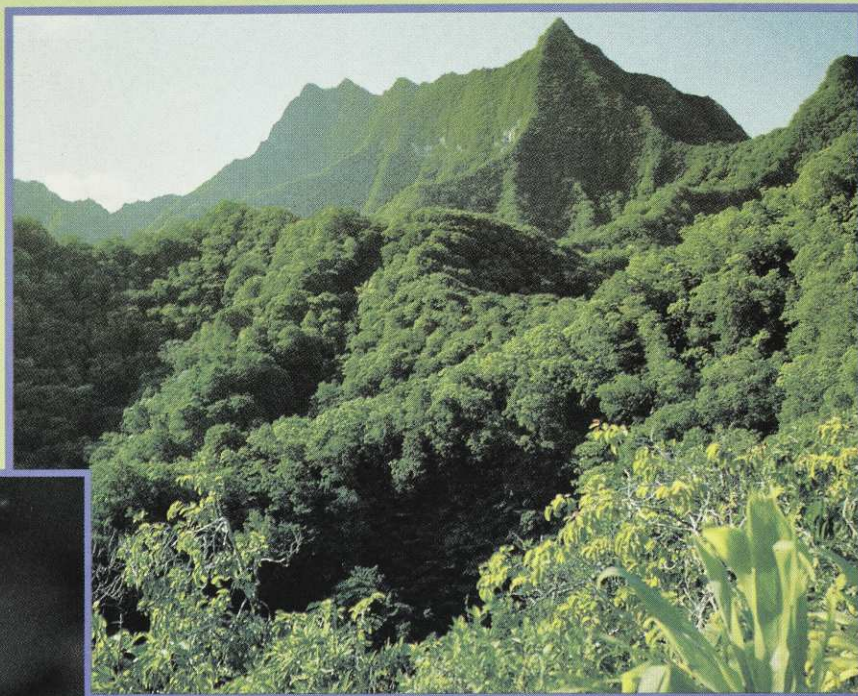
Volume 22 Number 1  
February 1991

# Forest & Bird





# *Join up a new member*



*....and qualify for the draw for a trip to the beautiful rainforests and tropical lagoons of the Cook Islands.*

**F**orest and Bird is offering a chance for a free trip for two adults to Rarotonga (to be taken before 31 October 1991), including 7 days accommodation and air travel – if you sign up a new member by June 30, 1991.

You will stay in a pole bungalow set in gardens in the foothills of Rarotonga's spectacular mountain peaks.

Here is what Professor John Morton has written about Rarotonga: "The glory of Rarotonga is in its central crown of forest, with the panorama to be scanned in the half day's cross-island walk. In the Cook Islands, it is not too late to discover the old heritage, of which big pieces are still intact."

**Walk in lush tropical rainforests • See the Rarotongan starling • The endangered kakarori**

*Just fill in the gift coupon in the back of the magazine and you could be in the draw for a holiday in Rarotonga.*

Cover: A white-capped mollymawk nests among megaherbs on the Auckland Islands. Forest and Bird is promoting the Auckland Islands, North-west Nelson and the Kermadec Islands as World Heritage sites. (see story page 19).

Photo: Kim Westerskov



## New Directions, Old Concerns

**O**UR CAMPAIGNS on conserving energy and fisheries may seem some distance from our original concerns with forests and birds. Yet this extension of our effort flows directly from our basic concern for the natural environment.

Saving energy may help reduce the greenhouse effect and damage to the ozone layer, factors which threaten our delicate world through climate and physical change. Using energy more efficiently, however, also reduces the demands for more power stations with their deleterious effect on the natural environment of water birds, for example.

Moderating the harvest of our fisheries, for its part, protects the natural systems of our seas. In a place where food chains are long and complex, overfishing soon places in jeopardy other links in the chain of survival. Again our fundamental concerns are affected as seabird populations and marine mammals suffer.

Presently, there is much talk of "sustainability" - definable, perhaps, as taking no more than nature replenishes. Actions which cannot be defended in this way are, by that definition, actions which contain the seeds of our own destruction. In the sustainable lifestyle, people use but respect the natural environment for what it is: a fragile place which needs to be nurtured not abused if we are to survive as a species.

Going easy on energy does not mean going without. In New Zealand it simply means avoiding waste to get better use from what we have already got. There are comforting scenarios which suggest that, by using common sense and a new technology, our power consumption could be radically reduced, making existing power plants sufficient for our long-term needs. New Zealand is fortunate in not having to face the option of nuclear energy. Yet, we have already gone some way to using gas, coal and oil in a wasteful and earth-damaging way. The Society's "Go Easy on Energy" thrust - shared with other concerned groups - should help protect the broader health of the environment. By avoiding the need to build more dams on our wild rivers it will also save the habitat of wildlife and plants.

Our interests in the management of fisheries reflect a broader concern for the marine environment. While other groups shoulder international concerns about depleted seas and their threatened species, Forest and Bird is campaigning locally to sustain our own fisheries for the feeding of future generations and the protection of our wildlife.

Environmental campaigns occur along an ever-moving frontier, as we encounter a rapidly changing world. Yet, our informing philosophy remains the protection of natural values. Increasingly, this has meant fighting for the very habitat which sustains natural life, rather than keeping a narrow focus on specific forests and bird species.

While campaigns for the conservation of energy and fisheries may look at first like new departures they are, in fact, simply the contemporary faces of our continuing concerns for nature and, perhaps, our own survival.

**Gordon Ell**  
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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## Right whales visit Te Waewae Bay

**S**OUTHERN RIGHT WHALES, mercilessly hunted to the brink of extinction mid-last century, may be on the increase. For the first time in living memory a pod of about 10 of the great cetaceans took up residence in Southland's Te Waewae Bay during July and August.

Department of Conservation conservation officer Andy Cox says the whales appear to have moved into the bay for breeding.

Several sightings of southern right whales are usually reported along the New Zealand coast during spring, but according to Tuatapere fisher Les Chandler it is the first time he has seen large whales in Te Waewae Bay in ten years' fishing.

Between 1843 and 1846 more than 100 shore whaling stations along the coast hunted the whale. It was given the name "right" because it was easily reached by rowboat, swam slowly, floated when dead and yielded large quantities of oil and long baleen.

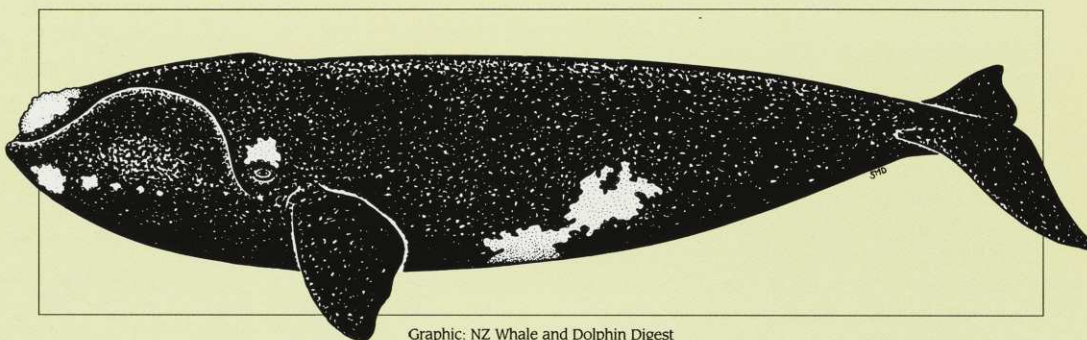
The species is distinctive because of the white callosities - raised patches of rough skin usually infested with parasitic worms, whale lice and barnacles - which cover the snout.

The total world population of southern right whales is estimated at only 3000. 🐋

**Tim Higham**



*The return of the southern right whale? Only time will tell but the signs are promising.* Photo: Tim Higham



Graphic: NZ Whale and Dolphin Digest

## Whooping it up for conservation

**W**ESTERN MOVIES have their detractors, not least because of the negative image they portray of North American Indians.

However, recent research on New

Zealand's seabirds owes a small debt to westerns, and is assisting endangered species such as the Chatham Island taiko.

Following on from work by Dr John Warham on the use of Indian "war whoops" to attract seabirds, DoC's Graeme Taylor and Forest and Bird researcher Alan Tennyson have recently fully tested the theory on a number of islands and on a number of unsuspecting species.

Dr Warham has suggested that human calls act as powerful sexual advertisement stimuli for gadfly petrels in the genus *Pterodroma*. In other words, the war whoops attract sexually active birds looking for a mate. Of all the species that were subject to war whooping, grey-faced petrels reacted most remarkably, as Tennyson and Taylor note in volume 37 of *Notornis*.

"Birds on the surface, in burrow entrances and in flight called immediately after stimulation. Some birds continued to call excitedly for several minutes after we had stopped calling. Some birds in flight landed, often crashing through canopy trees, within seconds of our making a war whoop call. Usually, these birds landed nearby but some landed up to 30 metres away. These and other birds on the surface scrambled towards us. When they came together they often fought. Others inspected burrow entrances, where they were sometimes attacked by the occupants."

The intrepid researchers also tested the war whoops on several gadfly petrel species on the Kermadecs, Mercury and Chatham Islands. Most birds tested were attracted by the war whoops or at least called from their burrows in response.

So what relevance do war whoops have to helping threatened seabirds? Warham, Tennyson and Taylor suggested that war whooping could be useful in finding burrows of rare species such as the Chatham Island taiko and petrel. Already several new colonies of grey-faced petrel have been found and population surveys of the rare white-naped petrel and Pycroft's petrels have been greatly assisted by using war whoops.

"We have found that some other loud noises, such as a "wolf howl", will elicit a strong response from *Pterodroma* petrels. However, the war whoops are easily used, carry well, and produce consistently strong responses," Tennyson and Taylor write.

Since the *Notornis* article was published, Graeme Taylor has through the use of war whoops caught four Chatham Island taiko in the three known burrows of the species. During the previous three seasons only one adult had been caught at these burrows. An expedition to search for burrows of the endangered Chatham Island petrel using war whoops was planned for January 1991.

**Gerard Hutching** 🐋



*A war whooping Forest and Bird researcher Alan Tennyson overcome by amorous white-naped petrels.*

Photo: Graeme Taylor

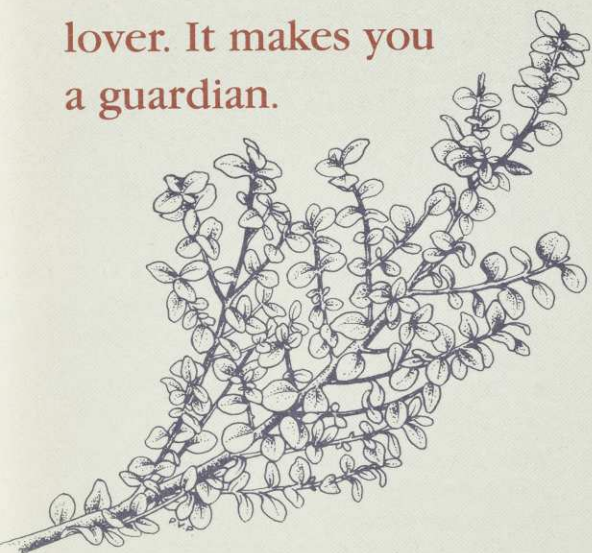


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*FOREST & BIRD*

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## Moving in the realms of the Gods

A NEW BOOK by historian and author Barry Brailsford, to be published later this year, will add to current knowledge about centuries old Maori conservation practices.

The book, at present called "Ngatapuwaē" until Maori elders decide on its name, sets out for the first time in writing the ancient and sacred histories of two of the oldest tribes in Aotearoa, Waitaha and Rapuwai of the South Island. It draws heavily on thousands of waiata and sacred karakia which tell of events right back to the coming of the great waka to the shores of Aotearoa. These oral histories contain much information which has previously been kept secret to protect it against misuse. A tapu on the release of the information has recently been lifted to allow publication of the book.

Brailsford says both Waitaha and Rapuwai had a tremendously sophisticated system of resource management. "Any intervention in nature was based on an enormous amount of careful observation of natural cycles. It was gentle and bound with kawa (protocols) and was intended to replenish, not deplete resources. There was nothing haphazard in what they did."

He says a Maori cosmology or world view where the human species is kin to all life is central to an ethic where conservation and sustainability were, "not just a way of life but life itself."

"The trees and the birds are the children of Tane Mahuta, and we are also of Tane Mahuta, so we are kin to the trees and the birds. The fish are the children of Tangaroa and we are kin to Tangaroa. When we hunt and fish and fell a tree we move in the realms of the Gods. We touch the lives of our kin and in the taking and touching there is always a need, and a kawa to ensure the Gods are not angered by our actions," Brailsford writes.

The tending of sea gardens is one example of how such beliefs were put into practice. Seeding of shellfish beds was common. Kelp bags or poha drilled with a special pattern of holes were filled with ovid/gravid pipi or other shellfish. The bags were lodged in rocky crevices or in the sand below a particular wave line on the foreshore. Wave pressure would slowly disperse the eggs over a period of time into the surrounding sand or rocks, helping to build up the shellfish population.

Management of the sea gardens could also involve careful use of natural predators. "If the pipi coming from a particular bed are skinny and not very juicy because of overcrowding then a particular type of whelk would be introduced. Only the big pipi with a healthy and strong muscle would be able to keep their shells tightly closed and withstand the whelk," says Peter Ruka, a Christchurch fisher closely involved with research for "Ngatapuwaē". The whelk would effectively thin out the bed by eating the less healthy pipi and leaving the stronger ones to increase in size and reproduce.

Other waiata transcribed by Brailsford explain how surplus fish from netting expedi-



*Motukeikei on the West Coast. On the rock ledges that fringe these small islands, the Waitaha seeded black mussels carried in their waka from distant waters. Those who saved the mussel spat were required to nurture the crop from generation to generation. Photo: Derek Mitchell*

tions were held in rock pools until they were needed and released if they weren't, and how at the appropriate time of year long nets would be strung across particular bays at night to protect fish breeding areas from incursions by squid.

Ruka believes that much of the knowledge in the waiata and karakia can assist both conservationists and fisheries scientists by ensuring, for example, that marine reserves are located in areas which traditionally have been known to be fish breeding areas.

"The waiata involves thousands of years of folk wisdom. We don't have to re-invent the wheel and act as if it is only what we have learnt in the last 150 years which is important," says Ruka. "In the old world every little harbour had a role to play. Some were kohanga (nests/nurseries) and some were set aside as fishing areas. The restrictions on fishing followed natural cycles." If this traditional knowledge was used there would be substantial changes to current fishing regulations to better protect the species concerned.

Ruka says current regulations governing paua should be changed to prohibit the taking of paua larger than four inches because the bigger paua are more important as breeding stock. "Currently we protect the little ones but we never give them a chance to grow old."

"Never hunt mahuta, the giants, and never hunt the young still to know the world," Brailsford writes. "When the tuna (eels) run into the lakes and down the streams to the sea there is a kawa that binds the hunter. The

small ones, the males, are first to take to the trail of the seasons. They are allowed to pass through the traps. Those that follow on another moon, the middle sized females are the eels we seek, for their eggs are few and their flesh is sweet. The poutuna, the ancient ones that are much taller than our people, swim by with our karakia to help them on their way to the sea. For they are the true egg carriers. They are the future. That is the way with all fish. We never hunt the young or old."

Brailsford says much more research and writing needs to be done about the ancient histories and unravelling the skeins of knowledge which they contain. He is hopeful that the book "Ngatapuwaē" will encourage that to happen and help New Zealanders to give meaning to the words,

*"Toi tu te marae a Tane  
Toi tu te marae a Tangaroa  
Toi tu te iwi."*

"If the marae of Tane and the marae of Tangaroa survive so will the people." 🦋

**Eugenie Sage**

### Correction

The story in the November 1990 *Forest & Bird* "Lobster on the Rocks" referred to "the incompetence of fisheries managers"; it did not give recognition to the fact that MAF have recommended rock lobster catch reductions for the past few years. These were not implemented by the Government of the day.



## Yellow-eyed penguin in peril

**D**ESPITE THE TREMENDOUS efforts of conservationists, the numbers of yellow-eyed penguin on the mainland continue to plummet. Penguin expert John Darby says the results of the latest census show there are only 167 breeding pairs left on the South Island - a 50 percent drop from last year and the lowest ever recorded.

The seriousness of the penguin's plight can be judged by the fact that when *Forest & Bird* magazine first carried a story in 1985 about falling numbers, it was then estimated there were 550 breeding pairs on the mainland (there are sizeable numbers on sub-antarctic islands but the mainland population is regarded as a discrete one).

A number of factors pointed to a troubled breeding season at the end of 1990: from September to November birds were arriving late at breeding areas; at the end of October most shags breeding on the Otago Peninsula deserted eggs and chicks; during October-November tens of thousands of sooty shearwaters were seen flying north off the Otago Peninsula when they should have been flying south; there was a major decline in the flat fish fishery; a greater number of yellow-eyed penguins than normal were recorded dead.

To John Darby, it appeared the yellow-eyed penguins were heading for another disastrous breeding year, similar to those of 1986 (when adults starved to death) and 1989 (when chicks were severely affected).

Drastic measures were therefore taken. In late October one of a pair of eggs was taken from each nest. The reasoning behind this move was to give the adults less work to do in feeding just one chick as against feeding two. Adults need to be in good condition to survive autumn moulting and feeding two chicks would leave them debilitated at this crucial time.

Where there were two eggs on a nest, wild-



Yellow-eyed penguin and friend Roy become acquainted during the production of the Mainland TV commercial.

Southland branch Forest and Bird members restore yellow-eyed penguin habitat at Te Rere Reserve.

life managers ensured that a fertile egg was left. Many of the eggs were infertile. If both the eggs were fertile, where possible one was placed in a nest without fertile eggs.

So why were no attempts made to captive rear chicks?

John Darby says there are no records in the world of penguins having been raised by humans which have been returned to the wild and survived. Secondly, the Department of Conservation believes that the meagre resources available to it are better spent on ensuring a wild population survives than hand rearing chicks that will never play a sig-

nificant role in the survival of the species.

Now for some good news. Dairy company Mainland Products have pitched in with a \$65,000 annual grant which is to go to the Yellow-eyed Penguin Trust. The Trust will use the money for revegetation and fencing, predator trapping and an education programme to teach people about the hazards of dogs attacking penguins and the dumping of unwanted cats.

Mainland are also able to give the penguin nationwide publicity through their TV adverts which feature a yellow-eyed penguin. *fb*

## KNOW YOUR WEEDS

### Wild Asparagus

**F**IVE SPECIES of asparagus have become wild in New Zealand: climbing asparagus (*Asparagus scandens*), smilax (*A. asparagoides*), asparagus fern (*A. setaceus*), bushy asparagus (*A. densiflorus*) and edible asparagus (*A. officinalis*). Edible asparagus, when left, grows into a small bushy shrub with erect branches. It is native to Eurasia and North Africa and has sparingly naturalized in New Zealand. The other four asparagus species are scramblers or low climbing vines and are all native to southern Africa. They are grown in New Zealand as ornamentals and have escaped; two of them are problem weeds.

All asparagus species have fleshy roots and tiny true leaves, which may possess a basal spine as in asparagus fern. Cladodes (flat-tened stems) are the larger leaflike structures which are usually whorled around the stem;



Top: Climbing asparagus smothering a regenerative forest floor and encircling the lower tree trunks - Mangawhai 1987. Bottom: Smilax with flowers, flower buds and very wide cladodes borne singularly.

their shape and size is characteristic for each species (see Table). Their small flowers possess six segments which give a clue that asparagus is a member of the lily family (and not a fern). The fruit is a fleshy berry containing one to several seeds which are dispersed by birds.

The four asparagus vines are relatively recent weeds in New Zealand with their first naturalised occurrences being from the 1950s (smilax and climbing asparagus) to the 1970s (asparagus fern and bushy asparagus). All four are increasing in abundance and distribution. In a relatively short time climbing asparagus is looking to become one of the worst forest and shrubland weeds in the warmer parts of New Zealand.

Smilax is similar to climbing asparagus but has less of an impact on native vegetation. Both occur as far south as Wellington and



# Birds in the hand

MICK SIBLEY, curator of animal operations at Auckland Zoological Park, is part of a small team carrying out trials on captive bird breeding which could have significant spin-offs for the endangered kakapo.

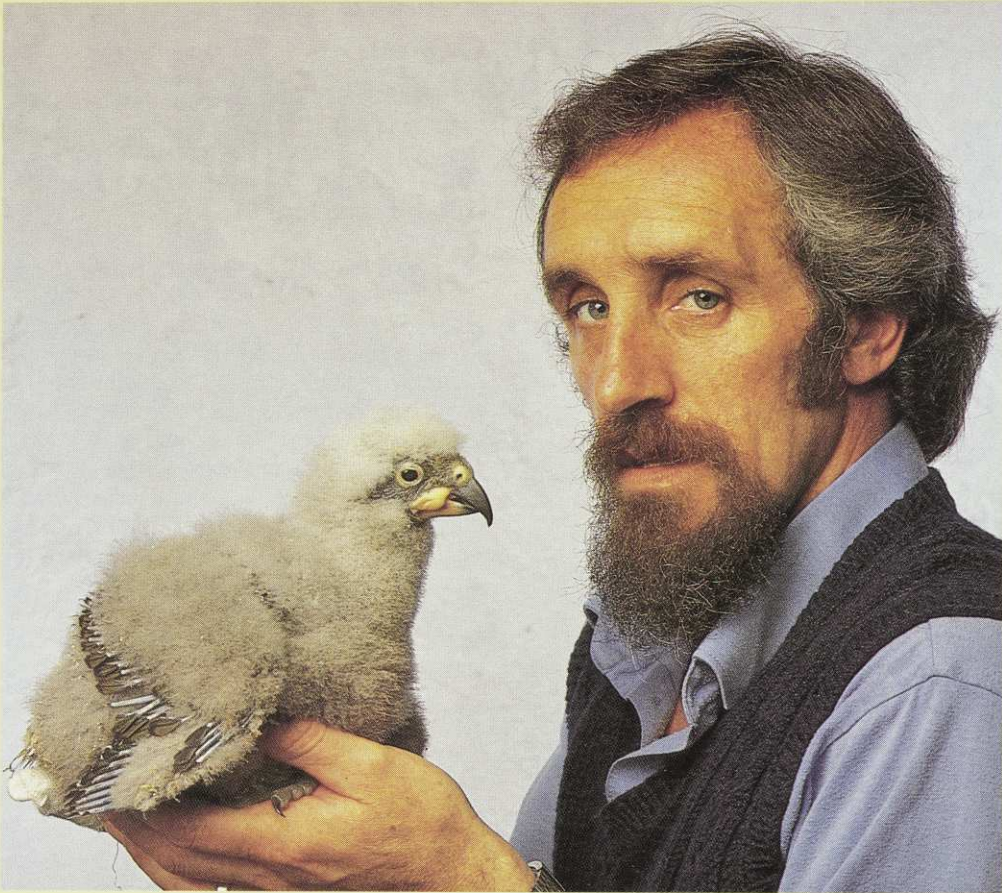
Using the kea and kaka, eggs are being artificially incubated and the birds hand raised. With the information gleaned from these results, scientists and managers might better be able to unlock the key to successful kakapo breeding. It is now ten years since the critically endangered kakapo, population less than 50, has been known to rear a chick.

Mick Sibley makes it quite clear that the motive behind the native bird programme differs significantly from the traditional aims of captive breeding.

"We want to hand raise birds so they will breed. There is evidence that hand-raised birds breed better than wild birds in captivity. However we do not want to 'humanise' these birds. We are only interested in obtaining socially well adapted chicks.



By 11 weeks the kea closely resembles an adult.  
Photos: Sally Tagg



Mick Sibley and a 5-week-old kea chick raised through captive breeding.

"Say we remove two or three eggs from a bird in the wild, it will lay again. We will artificially incubate and hand raise the chicks of those eggs and the bird will then lay again at no extra strain. So you have effectively doubled production and increased the options for the species," Mick Sibley says.

The kaka and kea will also benefit from the techniques learned in the programme. Recent

studies in Nelson have shown that kaka are not breeding successfully, leading to speculation that the species is on the decline. 🦅

Malcolm Falconer

smilax reaches Banks Peninsula. These vines may be dense enough to kill seedlings, inhibit regeneration and restrict human access. They occupy an unusual ecological habitat for a vine in being only a low climber.

I have seen climbing asparagus in Auckland and Mangawhai (NE of Wellsford) carpeting the ground and clothing lower tree trunks on bush margins and in secondary forest over areas greater than one hectare. This species has been reported by Alan Esler as killing its supporting host by strangulation. The climbing asparagus stems wrap around the supporting plant, and as the host expands it is ring-barked. Seedlings are shade tolerant which gives this species the ability to establish in unmodified forest. Asparagus fern and bushy asparagus are still relatively local in their naturalised distribution. The best method is to dig out asparagus

vines before they become well established. Once rampant they have, to date, been impossible to eradicate. Pulling up plants is only successful for seedlings. Once they reach a reasonable size the stems break, leaving the tuberous roots in the ground to re-sprout. Spraying is difficult because the vines are frequently tangled around native vegetation.

Recently Rod Smart, Noxious Plant Officer for North Shore City, has had some promising results spraying climbing asparagus in a

native habitat with Roundup (50 mls Roundup with 5 mls Pulse in 5 litres of water). Lightly wet the lower portions of the asparagus and respray 30-60 days later to 'spot out' plants missed. Accidentally sprayed native plants can be 'saved' by removing sprayed leaves to prevent translocation of the herbicide. 🦅

Ewen Cameron

Table: Cladode features for the different asparagus vines.

cladode	climbing asparagus	smilax	asparagus fern	bushy asparagus
length (cm)	0.5-1.5	1-3.5	ca 0.5	1.5-2.5
width (mm)	1-1.5	4-15	? 0.1	1-1.5
cladodes per whorl	(2)-3-(5)	1	7-20	1-7





## UK's second marine reserve

THE UNITED KINGDOM now has two marine reserves.

Skomer Marine Nature Reserve consists of the sea bed and shore around Skomer Island and the Marloes Peninsula in Wales and includes 27 km of coast and 1500 ha of seabed.

Skomer Island is already a national nature reserve and is one of the most important seal breeding sites in south-west Britain.

Source: *Oryx*

## The collector

A WELL KNOWN SCIENTIST and bird breeder, Jesus Estudillo Lopez, has been arrested for attempting to smuggle 22 rare and protected birds out of Brazil.

Dr Estudillo, a Mexican and a respected member of the international scientific and bird community, is one of the world's leading experts on cracids, a group of pheasant-like birds which includes many endangered species. He has bred a number of the cracids in his breeding centre in Mexico.

Estudillo was boarding a flight for Mexico City when his luggage was checked to reveal the birds.

Source: *Traffic Bulletin*

## Steller sea lions threatened

THE US FISH and Wildlife Service has officially placed the Steller sea lion on the threatened list after a dramatic decline in the species in Alaska.

Several possible causes are given for the decline: commercial fishing may be reducing the sea lion's food source, and sea lions are getting drowned in nets.

Source: *Endangered Species Technical Bulletin*

## Ivory market declines

A WWF REPORT, *The Effects of Trade Moratoria on International Commerce in African Elephant Ivory*, has found that prices and demand for ivory are steady or falling in the EC, US, Middle East, Africa and most of Asia, with the exception of Japan.

However Japan has adhered to the ban and last year confiscated 30,000 unfinished ivory name seals believed to have been loaded in Hong Kong. In the US the \$100 million a year market has collapsed and in China (which exempted itself from the ban until January 1991) the largest ivory factory now employs only six out of the 600 employees who worked there.

Although some illegal killing of elephants continues in Africa, Kenya has announced that poaching is down by 90 percent from the first quarter of 1989.

Source: *WWF News*

## Aussie Subantarctics for World heritage

AUSTRALIA'S FEDERAL Department for the Environment has been preparing a World Heritage nomination for Australia's subantarctic islands, including Heard, MacDonald and Macquarie.

Unfortunately the nomination is stalled at present by the Premier of Tasmania, Michael Field. Mr Field wishes to put the proposal before a World Heritage Community Advisory Council, which includes the Tasmanian Chamber of Mines and the Mountain Cattle-men's Association, to gauge "broad community support" for the proposal.

These same organisations oppose anything to do with World Heritage nominations on mainland Tasmania, have no legitimate interests in the subantarctic and are hardly qualified to assess World Heritage values.

Perhaps the New Zealand Government should join in with a joint nomination for our subantarctic islands and Macquarie, which are all in the same biophysical region.

Source: *Wilderness News*

## Shark conservation

THE POPULAR IDEA that a dead shark is a good shark must vanish according to the UK's Fauna and Flora Preservation Society.

The question of shark conservation is mounting worldwide with huge increases in catches of sharks in a number of fisheries. In the United States, for example, shark mortality over the past 10 years has every year passed the maximum sustainable yield (estimated at 16,250 tonnes) by an average of 5900 tonnes per year. One of the factors driving the increased kill is the Asian demand for shark fins. (see *Forest & Bird* November 1990).

Source: *Oryx*

## A Saudi State of Affairs

ONE OF THE least publicised effects of the Gulf War is the waste generated by a modern army. By now the deserts of Saudi Arabia will be littered by millions of non-biodegradable plastic water bottles and food packages.

Each day the hundreds of thousands of US troops are getting their three daily rations of pizzas, hamburgers and hot dogs served in plastic "MRE" (Meals Ready to Eat) packages. These plastic bags are extremely durable. MRE packs discarded during the 1983 Grenada invasion could still be found littering the island years later.

To heat the food, individual plastic bagged servings are designed to be stuffed into yet another plastic bag called a Flameless Ration Heater (FRH) containing a magnesium flare that can heat the food to 100 degrees in ten minutes. The FRH packs can be used just once.

Source: *Earth Island Journal*

## Death of a Conservationist

WHEN CHICO MENDES was murdered in 1988 the world mourned the senseless death of a committed conservationist. The suicide of Thai conservationist Seub Nakhasathien in September last year was not so widely publicised, but nevertheless it rocked a nation where conservation has become a major issue.

For a week crowds gathered to pay their last respects. Media coverage was beyond expectation. Over 2000 people attended the funeral service. Thailand's King and Queen, in an unprecedented gesture of respect for a common man they had never met, sponsored the last two days of Seub's funeral rites.

40-year-old Seub killed himself because the pressures of trying to enforce conservation measures had become too great: illegal loggers had placed a price on his head, and his dream of turning the Huai Kha Khaeng Wildlife Sanctuary – described as the richest tropical forest in mainland South-East Asia and in line for World Heritage status – into a well protected, well managed sanctuary had turned sour.

However, Seub's sacrifice may not be in vain. His death has drawn attention to the enormous difficulties facing conservationists and the Seub Nakhasathien Foundation has been set up to provide financial support for Thailand's underpaid rangers and other forest protection workers.

Source: *The Ecologist*

## Recycling Woes

A FAILED ATTEMPT by McDonalds in the USA to introduce a recycling scheme for its polystyrene packaging illustrates the difficulties of cutting down the waste stream – and how recycling schemes are very much a patch-up job.

In the face of pressure from environmentalists, McDonalds started a pilot recycling scheme for the polystyrene packages, billions of which have ended up in landfills. Its polystyrene suppliers had agreed to invest \$US16 million in seven recycling plants, which would turn the used packages into plastic resin pellets, which in turn would become everything from video cassettes to plastic flower pots to garbage baskets.

However environmental groups opposed the venture on the grounds that the ground up containers would not be recycled into new spoons, cups and plates (forbidden on health grounds by the US Food and Drug Administration). At best the recycling plans would transform one percent of America's plastic litter into "permanent" plastic furnishings and fixtures.

Source: *Forbes*





Welcome to this new section of your magazine! Through this page *Forest and Bird* will be strengthening its ties with the International Council for Bird Preservation (ICBP). Founded in 1922, ICBP is a global federation of 350 organisations in 111 countries, whose aim is to save the world's birds and their habitats. *Forest and Bird* has been a member of ICBP for 15 years and is ICBP's delegate in the South Pacific. Our conservation efforts can only be enhanced by joining forces with overseas conservation groups, particularly with our work in the Pacific and Antarctica.

## Bali Starling success

**I**N 1987 ICBP, in collaboration with other organisations, launched a programme to protect the 30 wild Bali starling in Bali Barat National Park and to increase the population with captive-bred birds. The Bali starling, a beautiful snow-white bird, is the only endemic bird to Bali.

Birds are now breeding in Surabaya Zoological Park, East Java, and 13 marked offspring were released into the wild last April. Some birds have integrated well into the population. Unfortunately one bird was caught by local bird trappers and was found for sale in a local market. It was identified by a small electronic transponder implanted in the bird.

The bird trade is rife in Indonesia, where birds are caught for the large European, North American and Japanese bird markets. The Bali starling will remain in peril until first world countries control their trade in exotic and endangered birds.

## ICBP surveys the Solomons

**A**n ICBP SURVEY, carried out with the assistance of other conservation groups and Solomon Islands government agencies, has recommended a number of forest ecosystem reserves and reserves for significant plant and animal species on the Solomon Islands.

The survey in January-March 1990 visited six of the main islands and consulted widely with local people. It was funded by the Australian National Parks and Wildlife Service.

The Solomon Islands are a major centre of biodiversity in the Pacific, with over 4500 plant species, 136 land birds (of which 44 percent are endemic), 130 species of butterfly, 70 reptiles, 34 bats and 25 frog species. Their main habitat is tropical rainforest, but at the present rate of logging these will be virtually logged out within 15 years. The greatest challenge lies ahead in implementing these reserve proposals.

## Cagou on the increase



**R**EADERS MAY REMEMBER an article on the plight of the New Caledonian cagou in the May 1984 *Forest & Bird*. We can now report that this large forest rail is increasing in the Riviere Bleu Territorial Park, near Noumea. The New Caledonian Ornithological Society and the New Caledonian Nature Protection Society's captive breeding programme has released 22 birds into the park.

Meanwhile, conservation work by the South Province Environment Service staff has boosted the survival and the breeding success of wild cagou, by controlling pigs, cats, rats and dogs in a 600-ha study area at Riviere Bleu.

A forest bird survey is planned for New Caledonia, which should identify remnant cagou populations away from Riviere Bleu and likely sites for re-establishing cagou in the wild. Forest protection and predator control appear to be the key to the survival of New Caledonia's national bird.



Cagou conservation advocates Jean-Louis d'Auzon, Yves Letocart and Serge Sirgouant at the ICBP Conference.

## Resolutions from the XX ICBP World Conference

**C**HATHAM ISLANDS: The conference recognised the plight of birds on the Chatham Islands, where 10 endangered species have populations less than 300, by passing a resolution calling on the NZ Government to put additional staff and financial resources into conservation on the Chathams. It called also for greater effort on forest restoration and predator eradication, especially on Pitt Island.

We are pleased to record that Conservation Minister Denis Marshall agreed with the resolution.

**SEABIRDS KILLED IN FISHERIES:** The conference passed a series of resolutions addressing the problems of seabirds killed in fisheries around the world (see *Forest & Bird* November 1990). New Zealand delegates played a leading part in the seabird workshop that proposed resolutions that:

- \* supported the United Nations and South Pacific treaties to end drift netting.
- \* proposed controls on gill netting.
- \* recommended a prohibition on net monitor cables on trawlers (which are killing large numbers of albatrosses).
- \* fishers and governments adopt methods for reducing the number of seabirds caught on longlines.
- \* fisheries observers be trained to record bycatches of seabird species.

## Spix's Macaw – A lone survivor

**I**CBP'S PARROT OFFICER Tony Juniper recently went on an expedition to Brazil to find the rare Spix's macaw in the wild. He and his four companions finally came across the last wild Spix's macaw in a woodland degraded by grazing goats, sheep and cattle.

Juniper suggests that habitat loss may have caused a decline in the species, leaving it vulnerable to trapping.

Only 15 Spix's macaw are known of by ICBP, although there are probably others held secretly by bird fanciers which will never be available for a species recovery programme.

## California Condor

**T**HE CALIFORNIA CONDOR, subject of a controversial captive breeding programme, is making a gradual comeback. Once down to a handful of birds, the latest population count stands at 40, all in captivity.

Scientists have increased the number of condor eggs laid a season as well as artificially incubated eggs. Thanks to artificial incubation, 28 chicks were born between 1983-1990.





Photo: Christchurch Press

## Save our Seals

THE PLIGHT of West Coast fur seals drowning in nets in the hoki fishery was highlighted by Canterbury Forest and Bird branch and supporters at a protest at Lyttelton recently.

Five Soviet trawlers moored in the harbour were part of a fleet of fishing vessels which have drowned at least 1600 fur seals over the last two years.

## 1990 medals for conservation

FOREST AND BIRD members featured prominently among the people awarded 1990 medals for services to conservation. Recipients included the Society's former national secretary Joan Leckie, conservation director Kevin Smith, immediate past president Dr Alan Mark, executive member Gordon Stephenson, Lesley Shand from the Canterbury branch, and Derek Shaw (Nelson).

Other notable recipients included West Coasters Maida Bryant and Jim Keenan; Hugh Barr, Arnold Heine and David Henson from Federated Mountain Clubs; Kevin Hackwell from the NZ Rainforests Coalition; Dame Miriam Dell and Cath Wallace from ECO; Theo Simeonidis from the Federation of

Freshwater Anglers and marine reserve advocate Bill Ballantine.

Also awarded medals were: Gary Aburn, Douglas Ackerley, Jacqueline Adams, Dr Ian Atkinson, John Bamford, Stephen Barker, Dr Carolyn Burns, Raymond Cleland, Arthur Cowan, Sheila Davis, Dr Richard Dell, Hamish Ensor, Jocelyn Fish, Peter Hayden, Dr John Hayward, Dr George Heather, Ernest Holdaway, William Johnson, Brian Jones, Percy Lucas, John Mazey, George Mollett, Guy Salmon, Professor John Salmon, Horace Sinclair, William Sutherland, Denise Sutherland, David Thom, Keith Thompson, Donald Thomson.

## Swamp haven

CANTERBURY BRANCH have produced a booklet promoting the special values of Travis Swamp, an 80-ha wetland just 8 km north-east of Cathedral Square.

*Travis Swamp: A Case for Preserving a National Asset* has been prepared by chairperson David Alexander and committee member Robert Harris. It points out that, while the swamp has been significantly degraded, it is still home to 43 bird species, 28 of which breed on site. Invading exotic weeds and many years of grazing have com-

promised the swamp's botanical values, but more than 50 native plant species still occur there.

Travis Swamp is one of the few examples left of natural Christchurch before the arrival of settlers in the 1850s. At that period much of the city area was swamp.

The future of the wetland has been under a cloud since a developer proposed housing on the 23 ha it owns. However, the developer has failed to obtain a water right to drain the land. Landcorp also own 29 ha of marginal grazing land; negotiations are continuing to reserve this area. The city council owns the remainder.

Long term plans for the swamp are to transform it into a wildlife and recreation zone, with board walks and bird hides – a haven for wetland wildlife in the midst of the city.

## New branch

FOREST AND BIRD has a new branch in the north. At the November Council the Hibiscus Coast section became a fully fledged branch. We wish them good luck and many conservation successes.





The giant map in Aotea Square showing the worst areas of ginger infestation. Photo: New Zealand Herald

## Ginger out

A NUMBER OF northern Forest and Bird branches helped launch a campaign in November to stem the tide of wild ginger invading our forests.

At Auckland's Aotea Square the branches created an enormous map of New Zealand on to which heaps of ginger were placed to denote the areas where infestation is worst.

The public was asked to phone in to "hot lines" to tell eradicators where the plants were. Forest and Bird members and others then moved in and put the plants in local council disposal facilities.

Plant shops were also requested not to sell ginger. Those that do not stock ginger and other noxious plants such as wandering Jew and old man's beard, are being presented with a "forest friendly" award.

The Noxious Plants Council is now being urged to declare wild ginger a noxious weed.

## NZ Dotterel update

AFTER TWO SUCCESSFUL breeding seasons, Eastern Bay of Plenty Forest and Bird's dotterel project on the Ohope Spit has run into new problems. Forest and Bird members have protected the nesting birds from people with dogs and motorbikes through public education and a fence around the breeding area. But nest predation remains a problem, and this year it was much worse.

Wild cats and stoats live on the Spit, and plentiful rabbits were a major part of their diet. However, in the 1990 winter the native sand dune plant pingao was planted. Rabbits,

known to have a taste for pingao, were poisoned to protect the plant, but an unforeseen consequence has been a surge in predation of New Zealand dotterel nests by hungry stoats and cats. With the assistance of DoC, one of our chief dotterel protectors Adrian Harrison has set traps throughout the dunes, and built a low netting frame to divert predators into tunnels which conceal Fenn traps. So far he has caught feral cats, hedgehogs and rats, all of which eat eggs, but the wily stoats elude the traps.

As the summer advances, tracks indicate that the stoats are becoming fewer in number, perhaps moving away as the pickings get lean. No chicks had hatched by December, but re-nesting will occur and it may be second time lucky for the birds.

At the river mouth of the tiny settlement of Otamarakau, Forest and Bird member Bill Te Brake is keeping an eye on two pairs of nesting New Zealand dotterel and variable oystercatchers. At the start of December he phoned local Forest and Bird officer Basil Graeme, anxious that the oystercatcher nest had been nearly swamped by the high tide. The next tide was to be even higher, indeed the highest spring tide for three years, and he was sure the nest would be flooded.

Basil, a natural improviser, suggested he lift the eggs, build a mound of sand and driftwood, and re-fashion the nest depression and eggs on top. Bill did this and was delighted when the bird returned immediately and sat upon the raised nest! The following day revealed where the tide had flowed around the nest, but it remained secure (and the three chicks hatched).

## Spring cleaning

SOUTHLAND BRANCH members turned out in force during October for the annual track and lodge maintenance weekend at Tautuku on the Catlins Coast.

Cold southerly rain on Saturday did not deter a keen group from clearing the walking track through the adjoining Lenz Reserve, although the task of spring cleaning the lodge was greeted with greater enthusiasm.

Sunday morning dawned with snow on the ground (at sea level!) but cleared enough to make the final track clearing a sunny and social occasion. And all were finally rewarded by the song of the first shining cuckoo of the season.



Southland branch members at the start of the track at Forest and Bird's largest reserve, the 550 ha Lenz Reserve.

## Greening Marlborough

IF NOTHING ELSE, the 1990 commemoration will leave a legacy of thousands of trees planted around the country, thanks to generous funding by the 1990 Commission.

Marlborough branch members played their part through a "Greening of Marlborough Project." Areas adjacent to the main highway between Blenheim and Picton were planted with cabbage trees, akeake, kowhai, flax and other native plants. Pictured are Marlborough branch members Margaret Peace (left) and John Watson in an area of swamp whose native forest surround was logged out 40 years ago.





# GO EASY ON ENE

**T**HIS SEMINAR marks the beginning of Forest and Bird's Go Easy on Energy Campaign. Forest and Bird is not alone in its concern for an energy efficient New Zealand. We have constant liaison with other conservation groups with similar concerns, and have a good information pool.

Electricity has been selected as the first specific energy sector to come under scrutiny. Other sectors, such as transport, natural gas and alternative energies, are in the final stages of investigation and will be dealt with in due course.

Among the fine attributes of electricity, there is a negative impact. It is this less glamorous side of electricity which lies at the heart of Forest and Bird's interests in this initial stage of our campaign.

The major interests and concerns Forest and Bird has with energy and electricity fall into two broad categories: habitat loss and greenhouse gas emissions.

All the available evidence shows that New Zealand has reached the end of the line as far as habitat loss is concerned. We are particularly concerned about potential loss of river habitat and the diverse conservation values associated with rivers. Forest and Bird has therefore in its provisional energy policy said that a specific action should be "to scrutinise and, where necessary, oppose any further proposals for damming New Zealand rivers and lakes."

There is also a requirement to scrutinise and oppose applications for current water rights, where the enhancement or restoration of critical habitat is of overriding importance.

The picture is not good. New Zealand continues to increase its energy consumption at such a rate that it is properly referred to as an international disgrace.

Electricity consumption is presently growing at an underlying rate of 3 percent. If this rate of increase continues, New Zealand will be utilising all its power stations (including the mothballed Marsden B) about the year 2000.

After that, power stations will have to be built at the rate of about one Huntly per year – and dams built on many of our remaining wild and scenic rivers.

One of the aims of the Go Easy on Energy Campaign is directly related to future water right applications and the potential loss of habitat they represent. The aim is simply stated: to stabilise electricity consumption and halt the growth demand.

## Greenhouse Gas Emissions

The second concern is greenhouse gas emissions. Molly Melhuish recently wrote in *Live Lines*:

"Scientists now know that the world's use of fossil fuels has discharged so much carbon dioxide into the environment that a substan-



Energy efficiency expert Amory Lovins spoke live by satellite to the launch of the Electricity Supply Association's energy efficiency campaign in December. On the podium were (from left) Energy Minister John Luxton, ESA president Murray Sweetman and ESA chief executive Barry Leay.

tial degree of global warming is almost certain to occur. Because the ocean acts as a giant "night store", the earth's temperature rise lags behind the increase in carbon dioxide and other gases. Natural variations in weather further obscure the evidence of rising temperatures.

"Even so, all but a few percent of the world's atmospheric scientists believe global warming has begun. Several hot summers in Europe, together with oppressive air pollution have helped to thrust this greenhouse effect into the forefront of international environmental politics.

**Geoff Bertram: "If we take on board some of the technological ideas that are out there, we can quite comfortably knock off over half of our electricity consumption."**

"In contrast, New Zealand's maritime climate helps mitigate any temperature effects and our clean air does not focus the public attention on our fragile atmosphere.

So popular concern, driven by popular observation and fear of the unknown, is largely absent in New Zealand.

"Overseas, politicians and industrialists are much more cautious than either scientists or the person in the street. Likewise in New Zealand the electricity industry would like to belittle its contribution – after all electricity produces only 17 percent of New Zealand's carbon dioxide emissions."

What is not generally recognised in New Zealand is that every time a consumer chooses to increase electricity use in the household or in industry, Electricorp has to burn fossil fuels to meet all the extra demand. All the recent increase in electricity consumption, 3 percent a year, has been generated by burning fossil fuels. New Zealand releases about 8 million tonnes of CO<sub>2</sub> per year – so last year's increase in electricity consumption represents about 10 percent of total CO<sub>2</sub> emissions. By stabilising electricity consumption, New Zealand would, in effect, reduce its CO<sub>2</sub> emissions by 10 percent and thus go 50 percent of the way to meeting the nation's stated target of a 20 percent reduction in greenhouse gas emissions by the year 2000.

## Retirement Fund

There is one other aspect about increased electricity demand which ought not to go unremarked. New Zealand presently has a considerable surplus of generating capacity over demand – a surplus economists refer to



*Forest and Bird launched its energy conservation campaign in November with a seminar entitled **Energy Futures in a Greenhouse World**. The following is an edited version of campaign co-ordinator Keith Chapple's address to the seminar.*

as 'under-utilised plant', but which I prefer to call our 'Energy Retirement Fund'.

Used frugally with an eye to the future, New Zealand has sufficiently spare generating capacity to call upon well into the next century, without constructing any new plant. But if we continue to increase demand, we will gradually eat into and quickly use up our Energy Retirement Fund. This merely brings forward the day when massive expenditure will be required to build more power stations. In effect, we would have gobbled up our retirement fund well in advance of our retirement, and handed our children and grandchildren a huge financial and environmental burden.

## Policy Measures

The present situation won't change itself and neither will it change without some fundamental changes in thinking in some areas, and a series of policy measures or action. I suggest that high priority should be given to a policy measure which actions a comprehensive public education programme aimed at producing an energy efficient New Zealand.

Such a programme should be as well funded as that which has promoted the con-

Different supply authorities will face very different pressures. I suggest that what will be common to all supply authorities is the direction of change toward energy efficiency – it is not the question of if, but when. It is toward this aim the Electricity Supply Association has bought rights to the 'Competitek' service of energy efficiency expert Amory Lovins' Rocky Mountain Institute.

This is an up-to-date and independent assessment of the quality of many thousands of products available for increasing efficiency. It is also a valuable insurance against a final obstacle to implementing energy efficiency – poor information, which makes us vulnerable to fraudulent or less competent sellers.

Thought might be given to a second policy measure which deals, really, in the general area of philosophy. I suggest Electricorp should look seriously at its present management philosophy. I readily acknowledge that Electricorp, as a state-owned enterprise, has a statutory obligation to operate a successful business. But, it also has a statutory duty to be an organisation that exhibits a sense of social responsibility by having regard to the interests of the community in which it operates, and by endeavouring to accommodate

## The Price of Power

**F**OREST AND BIRD MEMBERS often ask why the Society is pursuing an energy efficiency campaign and why do we campaign against hydro electricity schemes. Isn't hydro electricity one of the most benign sources of energy at our disposal?

New Zealand has paid a high environmental price for hydro electric developments. Here are some examples of the problems.

### Forests Lost:

A considerable area of forest in Fiordland National Park was drowned by the raising of Lake Monowai.

### Black Stilt:

Almost the entire Waitaki River system is modified by hydro development. By the 1950s, the black stilt was confined to the Upper Waitaki River and lakes. Since then, braided rivers have been diverted into canals and lakes have been raised, drowning delta feeding areas. The black stilt population has dropped to about 70 and thousands of dollars have been required for artificial breeding and habitat programmes to prevent its extinction.

### Blue Duck:

This rare torrent duck has lost large areas of river habitat, with damming and diversions. The Tongariro power scheme has reduced blue duck numbers on many rivers around Tongariro National Park, the North Island stronghold for the species.

### Geothermal Field Drowned:

Two thirds of the world renowned Orakei Korako geothermal area was drowned under Lake Oheguri on the Waikato River. It could be revived if the lake level is lowered when the water rights for the dams on the Waikato River are considered.

Despite the wide documentation of environmental problems with hydro-electric developments since the battle to save Manapouri, the Ministry of Commerce has recently come out with a report proposing new dams throughout New Zealand.

The report, entitled *Hydro Resources of New Zealand*, proposes dams on the Mohaka, Rangitikei, Motueka, Buller, Grey, Kawarau and Maitara Rivers, where National Water Conservation Orders are pending or being heard. The report does acknowledge that NWCOS on the Motu, Rakaia and Ahuriri Rivers could constrain their development. 🦋



*In the 1960s forests around the shores of Lake Monowai in Southland were drowned for hydro generation.*

sumption of electricity over the past three years, and aimed at every facet of energy use within New Zealand. It should be aimed at the household and industry but, perhaps more importantly, the electrical supply authorities – for it is at the retail level and the area where the consumer is closest to the electricity industry, that effective efficiency information can be readily absorbed.

or encourage them when able to do so.

I believe the interests of the community lie in an energy efficient New Zealand, and Electricorp can accommodate these interests within its present structure.

Going easy on energy is one of those rare situations where everyone is a winner.

Consumers have more money to spend, the supply authorities act in a socially respon-



Power and responsibility

ONCE again, the Electricorp behemoth is rampaging through the corporatised landscape. Since its establishment two years ago, it has gleefully accepted its duty to be a successful business. It has been much less enthusiastic about its obligation to show a sense of social responsibility. Its decision to appeal against the Planning Tribunal's compromise on the headwaters of the Wanganui River is as regrettable as it was predictable.

The corporation, which has been diverting water from six streams to feed the Tokaanu and Waikato power stations, had appealed against a 1988 decision of the Rangitikei-Wanganui Catchment Board to reduce the volume by 32 per cent. Wanganui Maoris appealed too; they wanted to restore the full flow to their river.

The tribunal balanced the conflicting economic, social and environmental claims, and ordered a 19 per cent reduction in the draw-off from June next year. It found that power generation had enjoyed an undue advantage since the Tongariro scheme began taking the water 18 years ago. This had adversely affected natural features of the river, Maori cultural and spiritual interests associated with it, and recreation and tourism in the region.

In fixing minimum flows for the Wanganui, the tribunal emphasised protection of the water resources and the need to meet as many demands as possible so that benefits "can be enjoyed and shared by all interests to the best advantage of the nation and of the region".

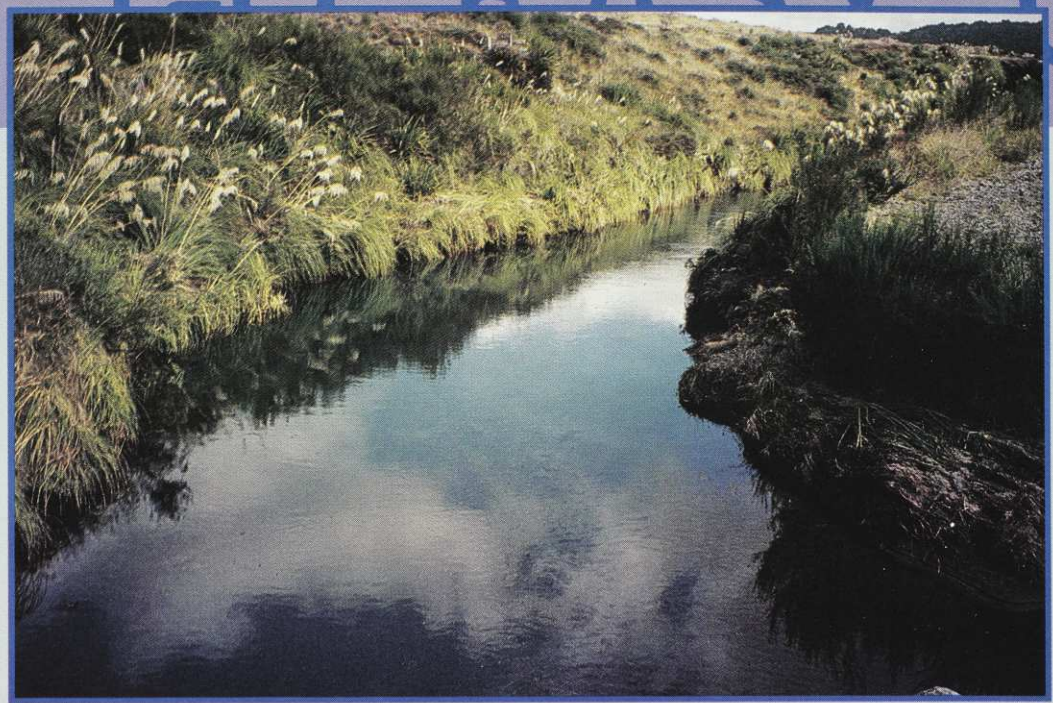
That is not good enough for greedy Electricorp. Identifying the national interest with its own economic advantage, it wants all the water available — and if other people and downstream ecosystems have problems because of that, tough luck.

The corporation's myopic self-interest is transparent, but it outdoes even that by the sanctimonious way it tries to justify the appeal. The argument is not simply about dollars and cents, it says, but about "conflicting environmental values". Poor Electricorp is anguished that for every litre of water it loses — so finely balanced is the power supply that Electricorp must measure the impact in litres — it will have to burn more coal and gas to make up the shortfall. The guilt of adding to carbon dioxide in the atmosphere weighs heavily on the corporate conscience.

So it should, beginning with the fuel-burning stations it already operates. But instead of working alongside conservationists to reduce electricity consumption, and hence its emissions of carbon dioxide, it is vigorously promoting its use. It pleads the business imperative of a state-owned corporation to excuse its rejection of wider community responsibilities — unless, of course, they can be quantified to yield a commercial advantage.

That spurs it to spend large sums of public money on one appeal and then, when it does not get its way, to launch another. Its huge financial resources have become an arsenal to wear down those who challenge its single-minded power play. The public will pay again when the Conservation Department enters the lists to fight another round in the interests of the environment. That is a lamentable waste.

Finance and State-Owned Enterprises Ministers Ruth Richardson and Doug Kidd are the shareholders of Electricorp on behalf of the public. They should knock some heads together and rein in the juggernaut.



Electricity, the clean fuel? The Wanganui River upstream of the intake where it is diverted north for the Tongariro power scheme; and the downstream effect. Photo: Arthur Bates

Estimate of Electricity Conservation and Management Savings in New Zealand

Category	% Potential Savings on 1988 use
LT Heat (Low Temp Heat-Low Cost)	39
Drive (Motors)	50
Electronics	50
HT Heat (High Temperature Heat)	10
Lights	90
Feedstock (aluminium smelting)	30
LT Heat (Low temp - High Cost)	32
Total	57

Source: Electricorp



# N ENERGY

sible business manner, and gain the goodwill of their constituents, the Government receives more taxes, the environment gets a breather, and Electricorp doesn't have to worry about building any more Clyde dams.

Things will not happen on their own. They have to be made to happen, and we could all begin to go easy on energy by paying attention to all those little electric gadgets around the home with little lights and timer switches. Things like water jugs and heaters which, amazingly, have little lights to tell you they are off; videos, all those electronic clocks, duster busters and other self-charging gadgetry, computers . . . the list really does seem endless. A rough calculation of these little lights and gadgets which we don't really need, adds up to the equivalent electricity generation of a Luggate dam, (440 Gwh), or a quarter of a Clyde. In total, they cost the electricity consumer about \$40 million per annum.

Amory Lovins has calculated that about half of New Zealand's present electricity need not be generated; this would cause no loss of service to the customer. That's a lot of extra dollars to spend on other things. This type of information will be vigorously pushed into the public gaze.

I want to stress that the Go Easy on Energy Campaign is a positive campaign. The Campaign is not about doing without, but about doing better with what we have. I believe that the key to an energy efficient New Zealand is close co-operation at all levels. ✎

*Copies of the proceedings of the November Energy Seminar (featuring Roger Blakeley, Geoff Bertram, Keith Chapple, Jim Guthrie, Jeanette Fitzsimons, Barry Leay and David Pate) are available from Forest and Bird, PO Box 631 Wellington, for \$15.*

## Energy efficiency made easy

**H**ALTING THE INCREASE in electricity demand is not as difficult as one might first think. The following are four energy efficiency measures which, in total, add up to about 1,000 Gwh per year - or, about 3 percent of total generation. Coincidentally that is the same percentage increase in demand at present.

- Turn down hot water heater thermostats by 15 degrees celsius. This measure would save 334 Gwh per annum.
- Eliminate 'instant on' remote controls for TV receivers. This measure would save 57 Gwh per annum, or about 30 percent of the electricity involved in the recent Wanganui River decision.
- Install high efficiency fluorescent light bulbs in kitchens. This measure would save 305 Gwh per annum.
- Replace incandescent light bulbs in living rooms with high efficiency fluorescent bulbs. This measure would save 273 Gwh per annum.

The sum of these four measures is 969 Gwh per annum - which is roughly equivalent to the annual increase in electricity demand. If the four measures were implemented in a year, about \$90 million would be released into circulation. ✎

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# THE MYSTERY OF THE VANISHING WEKA



North Island weka on nest. The peak of the weka's breeding season is July and August, and incubation takes 25 to 27 days.

**E**ARLY SETTLERS called it the woodhen, and spoke affectionately of its amusing antics and annoying habits. Last century weka were numerous and very tame, and could readily be encouraged into homes and camps. Their curiosity was engaging, but less endearing was their habit of stealing bright objects like watches and jewellery!

The weka is one of our most personable endemic birds, and quite a tough customer. Flightless it may be, but its strong legs and stout beak make it a formidable fighter and predator. Weka eat almost anything. In forests they scratch for insects, worms and fallen fruit amongst the leaf litter. In farmland they

eat seeds, foliage, fruit, grass grubs and wire worms, making up for the maize and tomatoes they enjoy. Weka scavenge dead animals, catch rats and mice and sometimes take baby birds. On the coast they skewer sandhoppers, shellfish and storm-cast food.

Weka can learn to like new foods. During the possum eradication programme on Kapiti Island, weka added possum carcasses to their diet. Early Maori introduced weka to Codfish Islands as a source of live food. There, the weka learnt so efficiently to kill the burrowing Cooks petrels, that the weka themselves had to be eradicated.

They live in many habitats: alpine tussock grassland, forest and shrubland, swamp, sand dunes and rocky coast, and settled farm land with gorse and hedgerows for cover.

Weka would seem to have a lot going for them, and last century they were abundant throughout the North and South Islands. Yet today, the North Island weka, *Gallirallus australis greyi*, has almost disappeared.

Scant records show the following picture:

- |                    |   |
|--------------------|---|
| Early 19th century | – Weka occurred throughout the North Island.                          |
| Late 19th century  | – Declining but still abundant in many areas.                         |
| 1920s              | – Reduced to Northland and Poverty Bay and perhaps the King Country.  |
| 1924               | – Northland population plummeted, only isolated populations remained. |

- |       |  |
|-------|--|
| 1950s | – Northland population extinct.  |
| 1970s | – Weka introduced to Kawau Island.   |
| 1986  | – Major decline in Poverty Bay, population split into two, at Gisborne and Motu. |
| 1990  | – Gisborne and Motu populations recovering, Kawau Island weka decline severely.  |

## Why did the Weka decline?

Nobody knows for sure, but there are a number of theories.

Some put it down to loss of habitat and competition for food from introduced animals, particularly possums. These factors have had a disastrous effect on many native species, but the versatile weka might have been expected to cope. After all, another native rail, the pukeko, thrives in our cultural landscape.

A critical food shortage at some time of the year may be a factor. Early settlers spoke of weka migrations - masses of thin, scabby weka moving across country, often in time of drought.

## Introduced predators

Around the turn of the century, waves of invading predators swept through the North Island, and may be associated with the dramatic decline of many species. However, weka can defend themselves much better

## Weka Sub-species

**T**HERE ARE FOUR SUB-SPECIES of weka: the North Island weka, the Western weka of Nelson, Marlborough and the West Coast, the Buff weka of Canterbury and the Stewart Island weka.

The Buff weka narrowly escaped extinction. In 1905 it was introduced to the Chatham Islands, where it flourishes to this day, but back in its home range in Canterbury it died out in 1924. In 1962 Buff wekas from the Chatham Islands were taken back to Arthur's Pass National Park, but did not survive.





*A weka chick peeks out at the world from the safety of its parent's back. Weka chicks remain with their parents for up to four months. Photos: Geoff Moon*

than most of our native birds. They can kill rats and mice, and rout cats, stoats or weasels in defence of their eggs and chicks. Despite this, predation must always be a problem for a ground-nesting bird.

### Disease

It is widely held that introduced poultry disease caused the sudden decline in weka numbers. This may account for the population collapses this century, and the abrupt appearances and disappearances of local populations last century. These declines could also be attributed to starvation, perhaps linked to drought. No hard evidence or diagnosis exists.

Many attempts have been made to re-establish weka in the North Island. Most of these releases failed. An important factor may have been the remarkable homing instinct of the adult weka.

A weka taken from Gisborne to Hawkes Bay walked 130 km home. Captured Gisborne weka were banded and released in the Waitakere Ranges, west of Auckland. Three weeks later, one of these banded birds was killed on the road at Taneatua, more than 300 km south of Auckland, and on course for Gisborne! Weka taken from Maud Island swam a kilometre back to the island, and some of those deported from Codfish Island to Stewart Island, survived the stormy seas and tide rip and swam the three kilometres back!

Such powerful homing instincts may have

sabotaged the crude re-introductions of wild captured, adult birds. A more sophisticated release succeeded at Rawhiti, in the Bay of Islands. Robertson liberated weka in the summers of 1966 to 1971, and accustomed the wild birds to their new surroundings by penning them for six weeks at the release site. More than 20 years later, the Rawhiti weka are established and extending their range.

At present, the North Island weka occurs as a natural population in Poverty Bay, and as introduced populations at Rawhiti, Kawau Island, Mokoia Island (Lake Rotorua) and Arid Island. In 1986, in its stronghold in Poverty Bay, the wekas suffered a massive decline, and as much as 90 percent of the population disappeared. The population now appears to be increasing, but research is urgently needed to replace the speculation.

Will the North Island weka, like so many of our endemic birds, dwindle to endangered status, or even to extinction?

### Return of the Weka

Forest and Bird has researched the North Island weka and consider it has potential for careful re-establishment in selected habitats.

First, we are initiating a captive breeding programme to produce a pool of young adults suitable for establishing a new population. This will avoid taking excessive numbers of wild birds from an already stressed population, and young, non-territorial birds will be more suitable to liberate

in new habitat.

This summer Forest and Bird members and Department of Conservation officers will conduct weka surveys to establish population levels, before capturing weka pairs for breeding. Pairs will be distributed to approved breeders.

While the captive weka population is building up potential release sites will be evaluated and the ecology of weka studied further. If the project succeeds the weka may return to enliven the forests of its former haunts. ♀

### Weka breeders wanted

**M**EMBERS INTERESTED in bird rearing may wish to take part in the Captive Rearing Programme. Participants must have a suitable aviary and obtain from DoC a permit to hold protected wildlife in captivity.

Further details are available from conservation officers Ann and Basil Graeme, 53 Princess Road, Tauranga (075) 65593.



# Should we be logging our indigenous forests?

by Professor John Morton

*The following article by Professor John Morton, one of New Zealand's most eminent ecologists and a Distinguished Life Member of Forest and Bird, was first published in New Zealand Environment. It provides an important individual perspective on our indigenous forests and is reproduced as a contribution to the development of an Indigenous Forest Policy. Here he criticises the former Labour Government's proposals for the "sustainable" logging for export of native trees. National supports these proposals, but at its post-election conference Labour came out in support of a total and permanent ban on the export of native woodchips, logs and timber.*

TODAY, IT COULD have been realistic for all our indigenous forests – publicly and privately owned – to be reprieved from logging. New Zealand could have shown such an example of forbearance at far less sacrifice than our near-Pacific neighbours.

Under the former Labour Government's forestry policy it isn't yet going to happen. Not that the whole policy is to be scoffed at. Their first statement has been strengthened by an interim ban on all exports of native timber, chip or saw-log. Announced, significantly, by then-Deputy Prime Minister Helen Clark, this took some political courage. It was clearly intended as a principled stand. Probably it was touched off by the wanton massacre of beech in Southland by owners trying to beat the new policy.

The pity is that the new policy, when its details emerge, is not likely to halt damage to our indigenous forests. It may create pressures to increase it. The Government has accepted bad ecological advice. If their policy comes into force it would offer a loophole through which timber products can be exported, if they are certified to have been logged under an approved regime of sustained yield management.

## Preserved intact

What does the Government intend this formula to mean? For there's an immense difference between a natural resource, like a hay paddock or a snapper fishery or a pine forest, that can be harvested for ongoing return; and a heritage forest, scarce, wonderful, slow-growing, that may cry out to be preserved intact.

Under "sustained yield management", anything taken out from the mature end of a population is replaced continuously by something almost as mature, coming on. This can happen with pines, and in European deciduous forests. No one with any knowledge believes that it could be done with 5-8 century-old rimu or totara. These have the wrong-shaped population curve: an 'inverse-J'. There are two or three centuries of age gap, with nothing middle-aged, until, centuries ahead, today's striplings begin to mature. If they ever do, neither we nor any people like us will be around to see the result.

The Government has now been persuaded

(and the Maruia Society alone among conservation bodies insists on going along with them) that sustained yield management is possible with beech. Here is a tree coveted for chipping and pulping to make a paper of special quality they like in Japan. It has a maturing age of only about a century. Its curve is not J-shaped. And it's perfectly true that when you cut down a beech you can get more to grow.

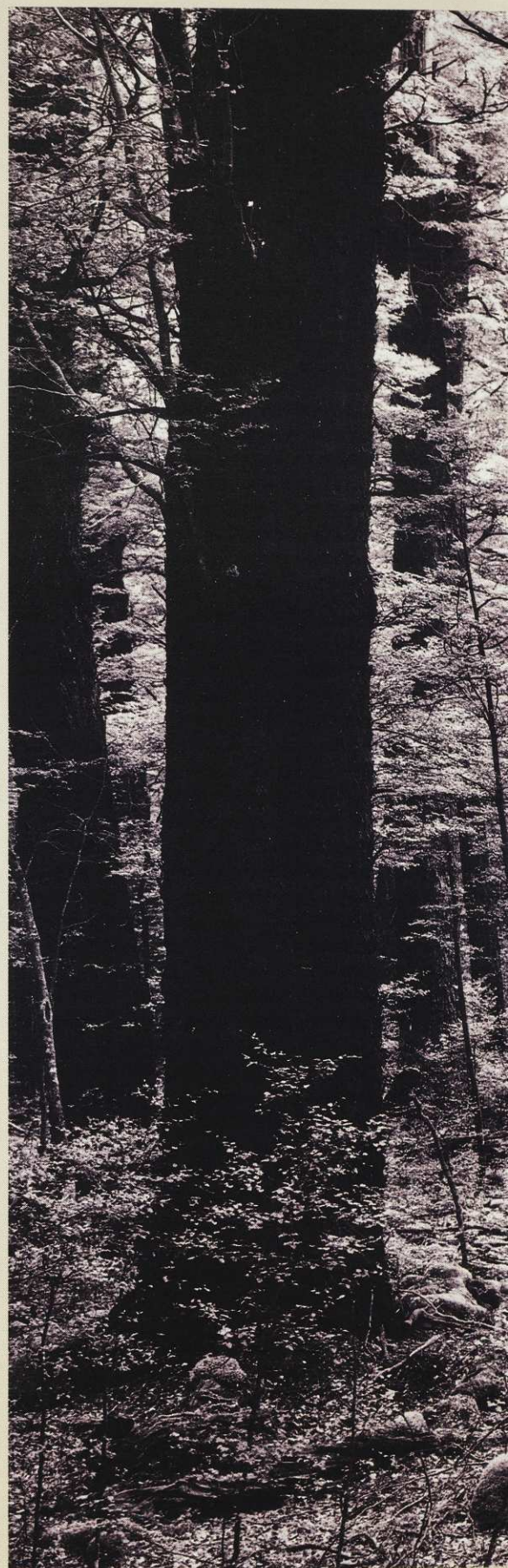
It is a long way from this to talk about sustaining an old and mature forest in the form we have come to value and love. We don't know yet what the sustained yield protocol would look like. It is likely to allow a much heavier take than the "selection logging" that we had by now thought altogether discredited for North Island podocarp forests.

What some of the industry have in mind would hardly preserve the integrity of an old mature forest. L S King, Executive Director of Wood Export Tokanui Ltd, wrote (*New Zealand Listener* 11 June, 1990) that although the present proportion of chip logs from Southland is about three times that of saw logs, this is only because virgin beech forests are "very over mature". "Managed stands will reverse this ratio to four to one in favour of saw-logs. Thus the wood quality of managed beech is vastly improved and in time the volume of low grade material available for woodchip production could decline dramatically. Conversely a much greater proportion of timber will be available for high quality uses such as furniture and veneer."

This could dangerously mislead. Today, there seems to be no market calling out for beech in furniture and veneers that other timbers (perhaps innovative exotic hardwoods) could not satisfy. This despite the repeated encouraging words from some in favour of small industries from beech.

## Forest's Chief Glory

By the Company statement, management would eliminate "over mature" (that word again!) old trees which are the forest's chief glory today. Sustained management under Government rules might allow the clearfelling of selected bits, so long as new forests were adjudged capable of growing up. Not much would remain of the old forest profile. New adolescent production forests would be there



instead.

Even at such a level, matching mature felling by new growth, the crunch question is not could sustained yield management be done, but would it? Who would ensure it continued over the years needed to bring back a forest, when none of us today will be any longer around?

What sort of scientific consensus would be sought for the new rules? What bureaucracy would be needed to monitor it? The industry's own people? Or who else would pay for it? And would every sustained yield log reach the wharf embossed with a certificate of bona





*Beech forest: "the light reflects in high points from a million small leaves as in a Seurat painting."*

fides, like the watermark in a bank-note?

Some are assuming, and Maruia among them, that the chipmills at Invercargill and Nelson must now close. They judge the small private and Maori holdings insufficient to make sustained yield management economic. But increasing pressures on beech may come as prices from Japan get higher, export needs more exigent, or chipmills hungrier. A future Government – on economic or local employment grounds – might find it hard to resist clamour for a bigger cut. Having conceded that beech can be up for logging at all, we'd have to be joking to believe most

owners or exporters would willingly forego the maximum yield for reasons of green conscience.

One holding that won't be held too small for sustained yield management is the 77,000 ha of West Coast beech, controlled by West Coast Timberlands. Japanese companies may look to the West Coast for their future resource of New Zealand hardwood. The plan is to take out 170,000 m<sup>3</sup> annually, most of it in chips. Bill Gilbertson, of West Coast Forest and Bird, is alarmed: "The way foresters practise beech management means the forest is progressively clear-felled. The wildlife values

plummet and the landscape is marred by an ugly patchwork of forest clearance."

Just as disturbing is the Government's new forest policy as it touches podocarps. They plan to allow export of sustained yield managed podocarp logs (though mercifully not kauri). The whole allowed cut of totara, matai, rimu and kahikatea might thus go to high-paying overseas markets. The prestigious value and increasing scarcity of such timbers would make helicopter logging viable. It could give the incentive to move into isolated private stands at present untouched. Angel Harvest – a would-be log export com-



pany on the West Coast – already wants to send to Japan the entire sustained yield cut of rimu.

## Renewed pressures

It is distressing to see these renewed pressures for podocarp logging. Faithful to their 1984 manifesto, the Labour Government had virtually put all North Island podocarp under protection. In 1978 Maruia director Guy Salmon and I stumped the trail together with the arguments against “sustained yield” for podocarps. In the book *To Save a Forest: Whirinaki* (1984) they are carefully set out.

I still believe these arguments, and that they apply – if with less dramatic force – to beech. Guy – if I understand him aright – is telling us we conservationists must not fall too completely for our own propaganda. I don't say this is disingenuous; I'd hold it to be an honest difference by a conservationist entitled from his proud record to high respect. Never a philosophical hard-liner (in the 1970s such ultimate positions didn't arise), Guy Salmon – as I see it – earnestly believes it possible to make accommodation today, with Government and industry, by allowing them to take some reduced amounts of timber, especially beech and perhaps – if they'd accept it – tawa. He would no doubt point to some improved attitudes we've seen from industry in the Tasman Forestry Accord that saved some 40,000 ha mainly in the North Island. Where I'd part company is in wanting – at this stage of the argument – still be to an advocate, rather than joining with Government in patching up solutions time may show to be insufficient. Thus, I take it hard today to be told that – after the 1986 West Coast Accord – the conservation movement is now precluded in good faith from a total opposition to the logging or export of beech.

One argument Maruia would advance, and that it is entitled to weigh, is that export bans will deprive Maori owners of the 'tino rangatiratanga' or true right of chieftainship over their own forests. This wasn't the view Guy or I took when the fine rimu of Waitutu were under threat of logging. But I was also in 1982 one of those willing for the Waitutu owners to have cutting royalties from state-owned Southland beech. It seemed then the best that could be done to achieve the greater good. In view of the later withdrawal by the would-be loggers Feltex, it was a concession that arguably was not necessary.

But it does remind us today of the big question still remaining: the need so to arrange our economy and employment openings that the cost of conservation doesn't fall disproportionately upon an already disadvantaged class. I am thinking here much more about employment than lucrative investment or exploitation gains.

Today Government is considering a land-exchange policy whereby land of high conservation value in Maori hands could be swapped for other holdings. Rather than exchange (with the inference that Maori owners cannot be trusted to look after a forest heritage), I'd want to return to my old suggestion of 'augmentation'. In this way, existing Maori land would be added to, where possible in the near vicinity, with areas that could be farmed for production. A few years ago, this might easily have been done from our public store of lands held by the-then

Lands and Survey Department. It would have made some historic reparation for land loss, as well as good conservation and economic sense. With that old Department's demise, and Landcorp's holdings likely to be sold off privately, such a creative opportunity may have gone for the foreseeable future.

Across the board, and keeping local economic justice in mind, I'd find it hard to accept exemption of one of the races of Aotearoa from the obligation to safeguard our forest heritage. To be mindful of the 'forests of the Treaty' would seem to require that they go on standing. Nor do I hear much Maori dissent from this. When the great waka were carved for the celebrations of 1990, it was not by raiding the few hundred giant totara left standing, but by using the forest's latest bounty in the shape of fallen trees.



*Beech chipping: “not much to gaze and wonder at.” Photo: Dean Schneider*

## Vaunted Right

As a nationwide policy, I'd also view with distrust proposals for a fund to compensate owners prevented from logging. It would be full of pitfalls to enshrine a right of compensation wherever ecological constraints made it necessary to leave a piece of pristine environment unexploited. The economy could not afford, nor would taxpayers agree to go on buying off every assertion of the vaunted right to “do what I like with my own land”.

This is a right – if it ever truly existed – that public policy and planning has much eroded. When the owners were prevented from draining the Whangamarino wetlands, Cooke P – in the judgement of the Court of Appeal – held that they had lost not a compensable ‘right’ but a ‘privilege’, to which the ownership did not indefeasibly entitle them. In planning lawyer's terms, New Zealand has never extracted payment of ‘betterment’ from

those whose property values public action has improved; nor is it time today to pay ‘worsenment’ wherever conservation may have reduced the exploitative yield. Perhaps every title to land will one day be held subject to such a “green equity”.

Our real danger today is that acceptance of indigenous cutting anywhere – as it need not be – will make the conservation principle everywhere so much harder to apply. To bring ourselves back to beech forests, the real question is not *could* sustained yield management be done, nor even the more realistic *would* it, but *should* beech be logged at all?

Even if they have never caught the northern conscience like podocarps, *Nothofagus* forests are superb. We share them today only with Chile. With parkland vistas, open floor, and fine horizontal branching tiers, they are a ‘classic’ forest; in such contrast with the high Gothic drama of podocarps. They are Hadyn, not Wagner. Or to change the simile, the light reflects in high points from a million small leaves as in a Seurat painting.

Let us be thankful we do have a little more beech forest left than podocarps. But we don't have enough to start realising the cash value in pulp and chips. That way, beech would in its turn be reduced to a few remnants and reserves.

Remember, if beech forests could regenerate, they would not be adult for long before a new logging round started. A steady trade, in and out, could leave not much to gaze and wonder at, in the shop window. I want to see these forests in my lifetime, not trade them for an adolescent production line.

## Never safe

Even if this would not happen to all beech, while politicians have caught this virus about the continued exploiting of indigenous species, our whole forest heritage can never be regarded as safe for our time.

Over beech, it is now being argued that conservationists should keep faith with the 1986 West Coast Accord. With the late Charles Fleming I at first opposed the Accord for its allowance of beech cutting. I was then persuaded this could put at risk the shaky adherence of the West Coast United Council to the Accord, or the Government's delivery of the concessions hanging on it. So – as an Executive Member of Forest and Bird (who supported the Accord) – I came into line. In retrospect I had lost credibility with both sides. And I believe today that the Accord was unwise, in making compacts or final settlements that would seal us off from future freedom of advocacy.

Should beech logging be done, then? I believe profoundly NO. And can we not, as people of conscience, see why? When, as children, we used to persist “Why can't we?”, for some breach of old or decent behaviour, my father would answer, shortly but quite sufficiently, “Some things simply aren't done”.

## Postscript

Since Professor Morton wrote the above article, we have seen a change of government and a renewal of beech chipping in Southland for a further 12 years.



# NEW ZEALAND'S WORLD HERITAGE

*"In wildness is the preservation of the world."*

*The world heritage mirrors the world. Its natural glories possess a value we cherish because they are untouched by human hand.*

NEW ZEALAND AT PRESENT has two world heritage sites - South-west New Zealand, a 2.6 million ha area promoted by Forest and Bird since 1985 and Tongariro National Park. Both were granted World Heritage status in December 1990.

The Royal Forest and Bird Protection Society is now launching a campaign for a further three World Heritage sites: the subantarctic islands, Kermadec Islands and North-west Nelson. The following photographic essay portrays just a few of the special natural features of the areas that would help qualify them for World Heritage status.





# Subantarctic Islands

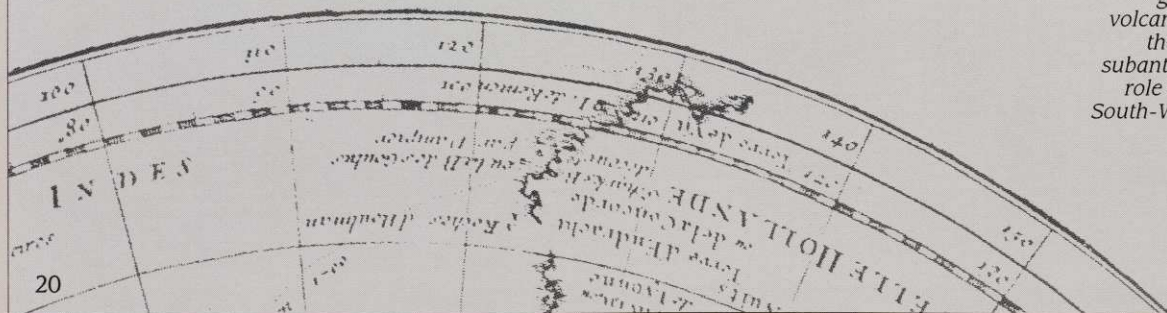
**S**PECKS OF LAND in a vast expanse of ocean, the subantarctic islands lie near the limits of antarctic water yet are influenced by warmer subtropical currents. The resulting nutrient-rich waters support enormous numbers of seabirds and marine mammals. Tiny Dent Island (centre) is the last remaining refuge of the endangered Campbell Island teal. Photo: Kim Westerskov



**O**NE OF THE MOST HAUNTING SOUNDS of the subantarctics is the call of the light-mantled sooty albatross. Nine species of albatross breed on New Zealand's subantarctic islands, far more than on any other island group in the world. Because of the great diversity and numbers of such seabirds, the islands are of tremendous global importance. Recent revelations (see *Forest & Bird* November 1990) about the possible extent of seabird deaths through fishing are worrying conservationists and wildlife managers. Photo: Graeme Taylor

**A**FTERNOON LIGHT shines on seacliffs of Campbell Island on an uncharacteristically calm day. In common with the Auckland Islands and Antipodes Island, Campbell Island's origins are volcanic. About 25 million years ago the Auckland Islands rose from the ocean, followed by Campbell Island (between five and ten million years ago) and Antipodes Island (one million years ago). The volcanic activity which gave birth to these islands is linked to the volcanoes of the eastern South Island, such as those which created Banks Peninsula. The subantarctic islands therefore play a significant role in unravelling the volcanic history of the South-West Pacific Basin south of New Zealand.

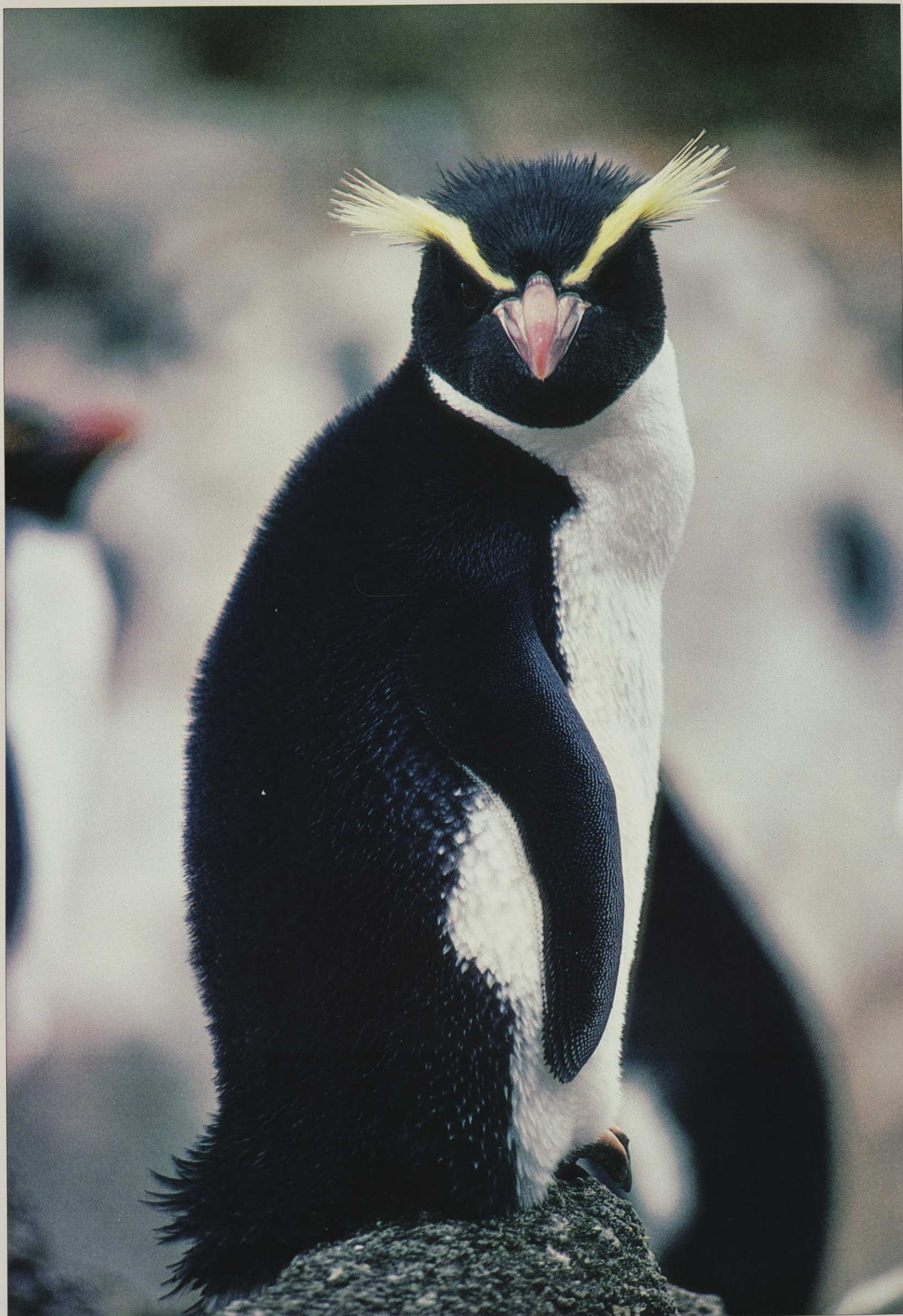
Photo: Kim Westerskov



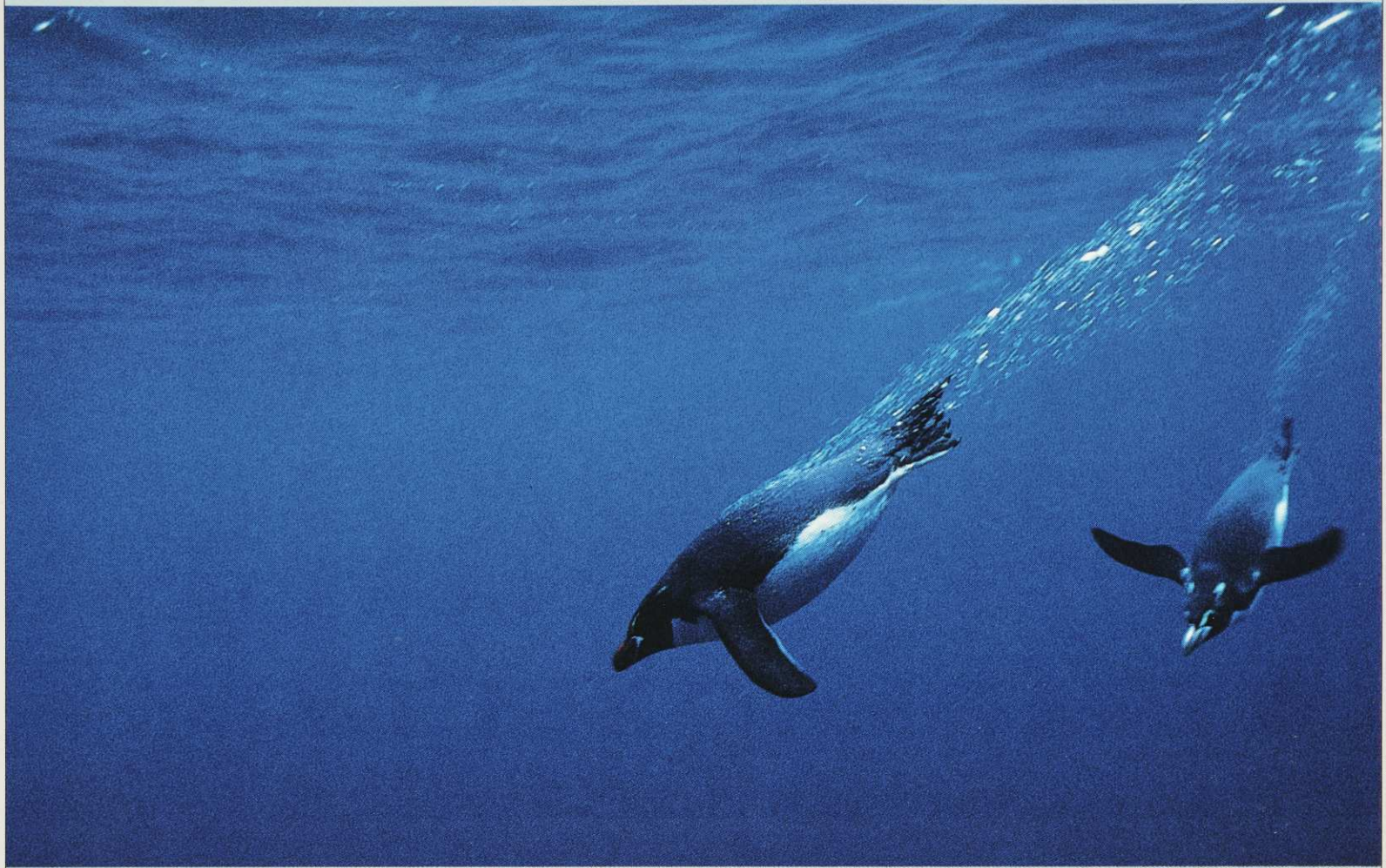






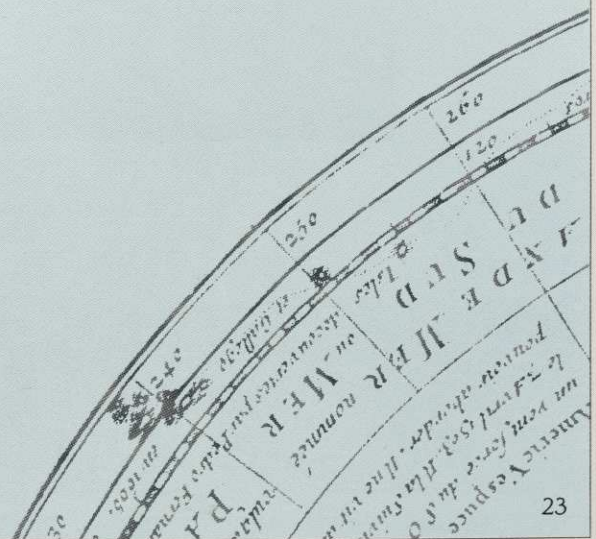






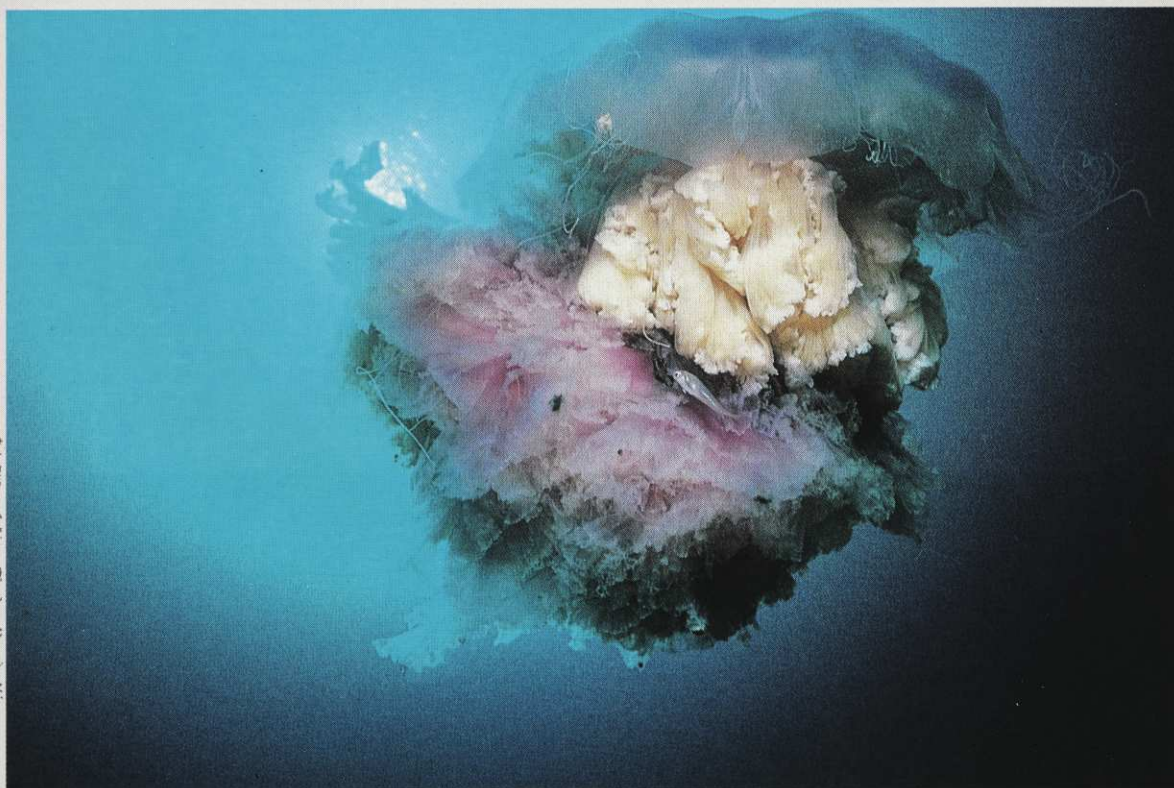
**F**OR SUCH A SMALL ISLAND GROUP (280 ha), the Snares have an extraordinary number of birds, including an estimated six million sooty shearwaters. The Snares crested penguin (population 23,000 pairs) (above and opposite) lives only on the Snares. Seemingly unafraid of humans, it makes a sleek shape underwater in its search for food. At slow speed it appears suspended in the liquid blueness but then a quick acceleration compresses its feathers, expelling a trail of bubbles behind. Photo: Kim Westerskov

**F**OREST AND BIRD has proposed a marine mammal sanctuary around the Auckland Islands to protect the threatened Hooker's sea lion. Top carnivores in the food chain, sea lions play a key role in the ecology of the Southern Ocean. If squid trawling within the 60-mile limit is allowed to continue, these superb swimmers may gradually slide to extinction. Photo: Kim Westerskov





**T**HE RARE, FLIGHTLESS AUCKLAND ISLAND TEAL. No more than 600 of this largely nocturnal species survive. The photographer describes the teal as "self assured and cheeky, relatively unafraid of humans. When it was first approached by me it backed itself into a cave but in the end it walked across my feet in order to get OUT!" Photo: Kim Westerskov



**L**ARGER THAN ANY JELLYFISH found around New Zealand coasts, this species of *Cyanea* jellyfish was photographed off Campbell Island. It measures up to 40 cm across, and 50 cm lengthwise. The small fish accompanying it is an undescribed species. Photo: Kim Westerskov. Opposite: SCIENTIST COLIN MEURK has described the subantarctics as "awful for people, wonderful for plants!" Spectacular megaherbs such as the giant daisy *Pleurophyllum speciosum*, with its tall flower stalks and large leaves, demonstrate the truth of his statement. Photo: Graeme Taylor



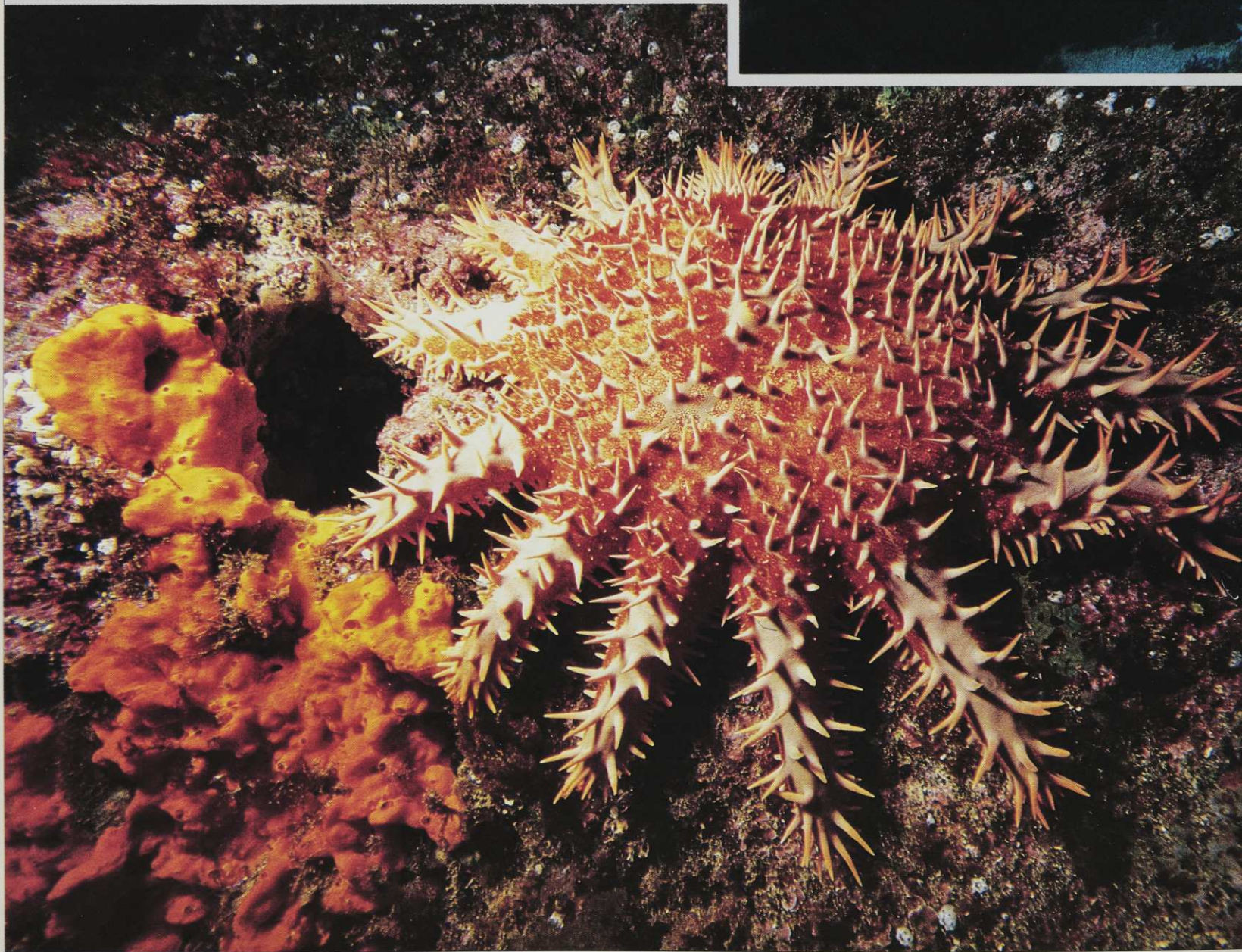




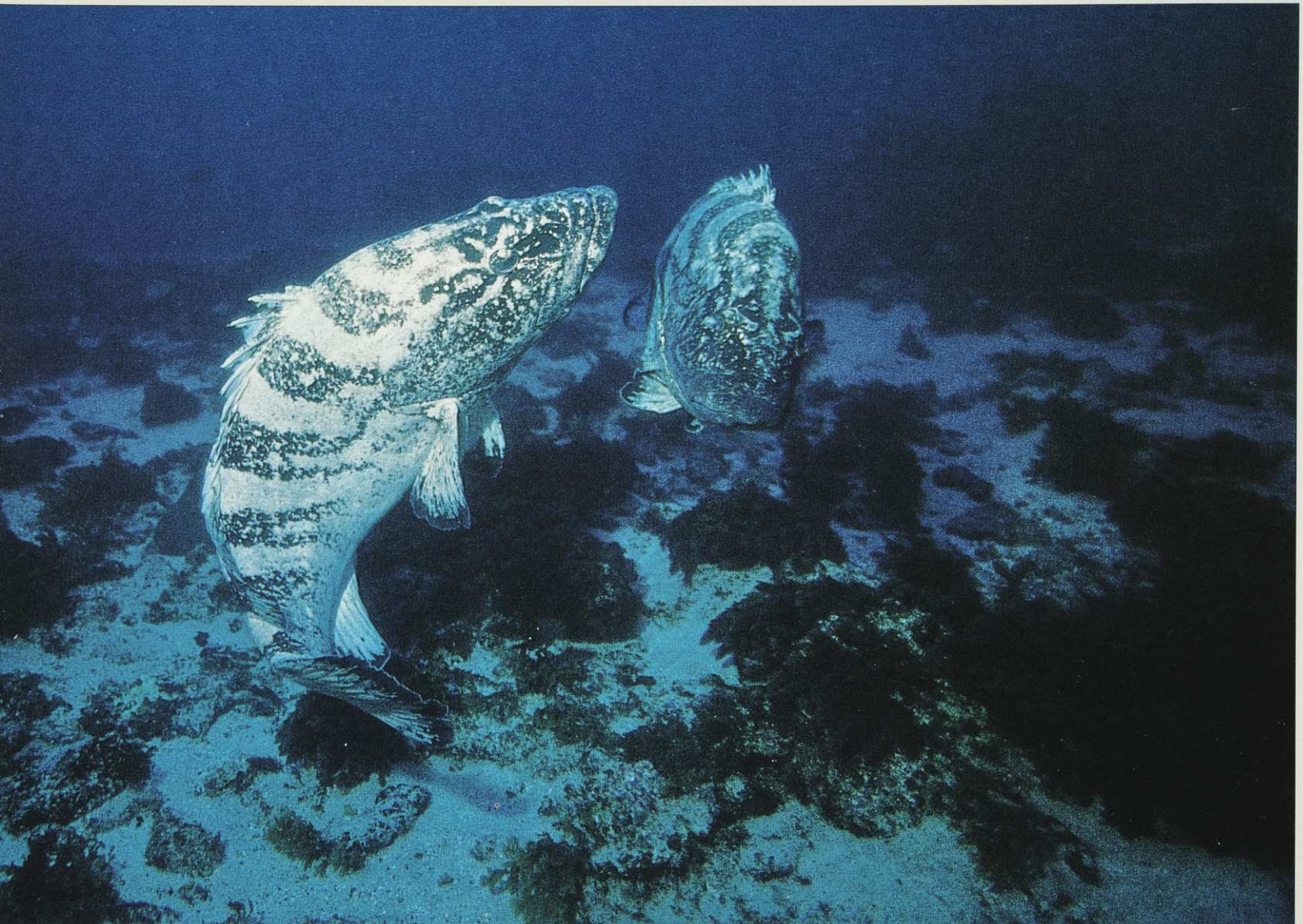
# Kermadecs

**A** SUCCESSFUL FOREST AND BIRD CAMPAIGN to protect the special features of the Kermadecs underwater world saw the seas surrounding the islands created a marine reserve in November 1990. Foremost among the ocean's inhabitants is the spotted black grouper, which grows to around 1.5 metres in length. Fiercely territorial, two males joust over boundaries in this photo. The fish change colour rapidly; when they meet each other they change white within a few seconds, stay that colour while performing, then change to black again. Sparring rarely erupts into violence. Photo: Roger Grace

**T**HE CROWN OF THORNS STARFISH is widespread throughout tropical seas, but is at its southern limit at the Kermadecs. It occurs at the northern Kermadec Islands but not as far south as Curtis Island or L'Esperance Rock. It is associated with the reef-forming corals on the islands it feeds on. Photo: Roger Grace

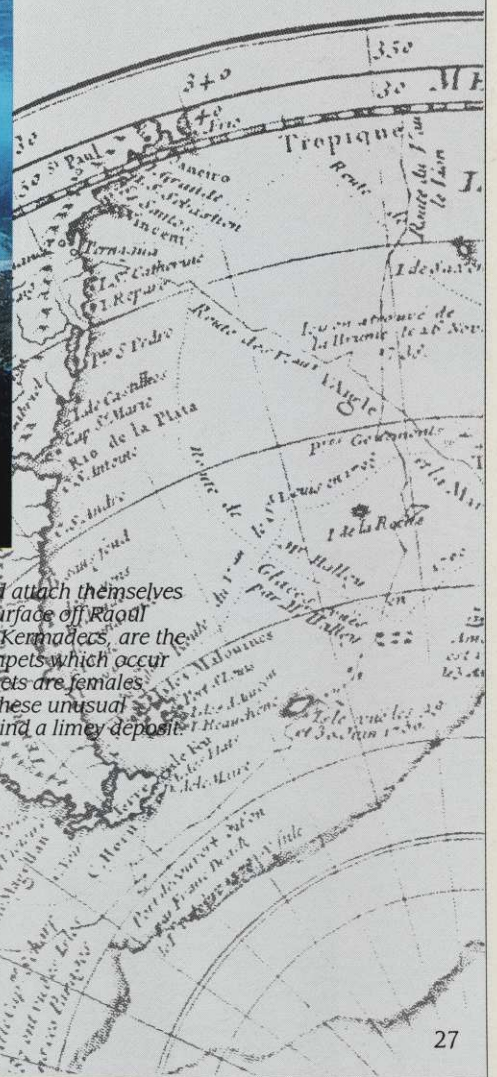






**L**IMPETS as large as a person's hand attach themselves to rocks three metres below the surface off Raoul Island. These limpets, endemic to the Kermadecs, are the second largest in the world behind limpets which occur in Mexico. The largest Kermadec limpets are females which have started off life as males. These unusual limpets feed on the rocks, leaving behind a limey deposit.

Photo: Roger Grace





**T**HE KERMADECS have some of the largest breeding populations of seabirds in the Pacific. In the evenings the sky darkens as millions of petrels such as the black-winged petrel return to their nesting burrows which riddle the islands. Fast flying and acrobatic, this species migrates northwards, spending from April to October in the North Pacific. Photo: Alan Tennyson



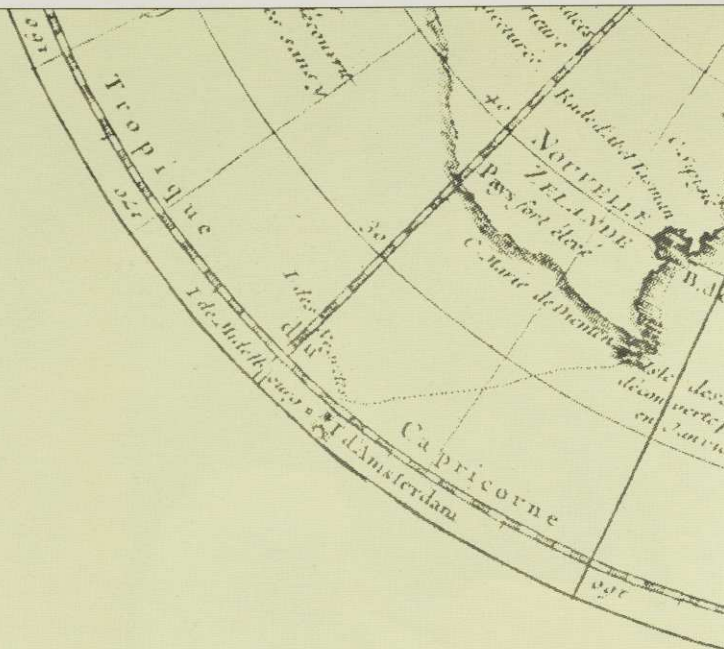
**T**HE "PACIFIC RING OF FIRE" includes the Tonga-Kermadec Island arc, which lies along the Pacific/Indian-Australian plate boundary to the north-east of the North Island. The Kermadec Islands - Raoul, Macaulay, Curtis, and L'Esperance Rock - are part of a classic subduction zone, where the Pacific plate is being forced down into the mantle underneath the more continental Indian-Australian plate. New Zealand scientists on Raoul Island in 1964 witnessed the island in one of its more volatile moods before they were evacuated. Photo: Don Merton







# North-West Nelson



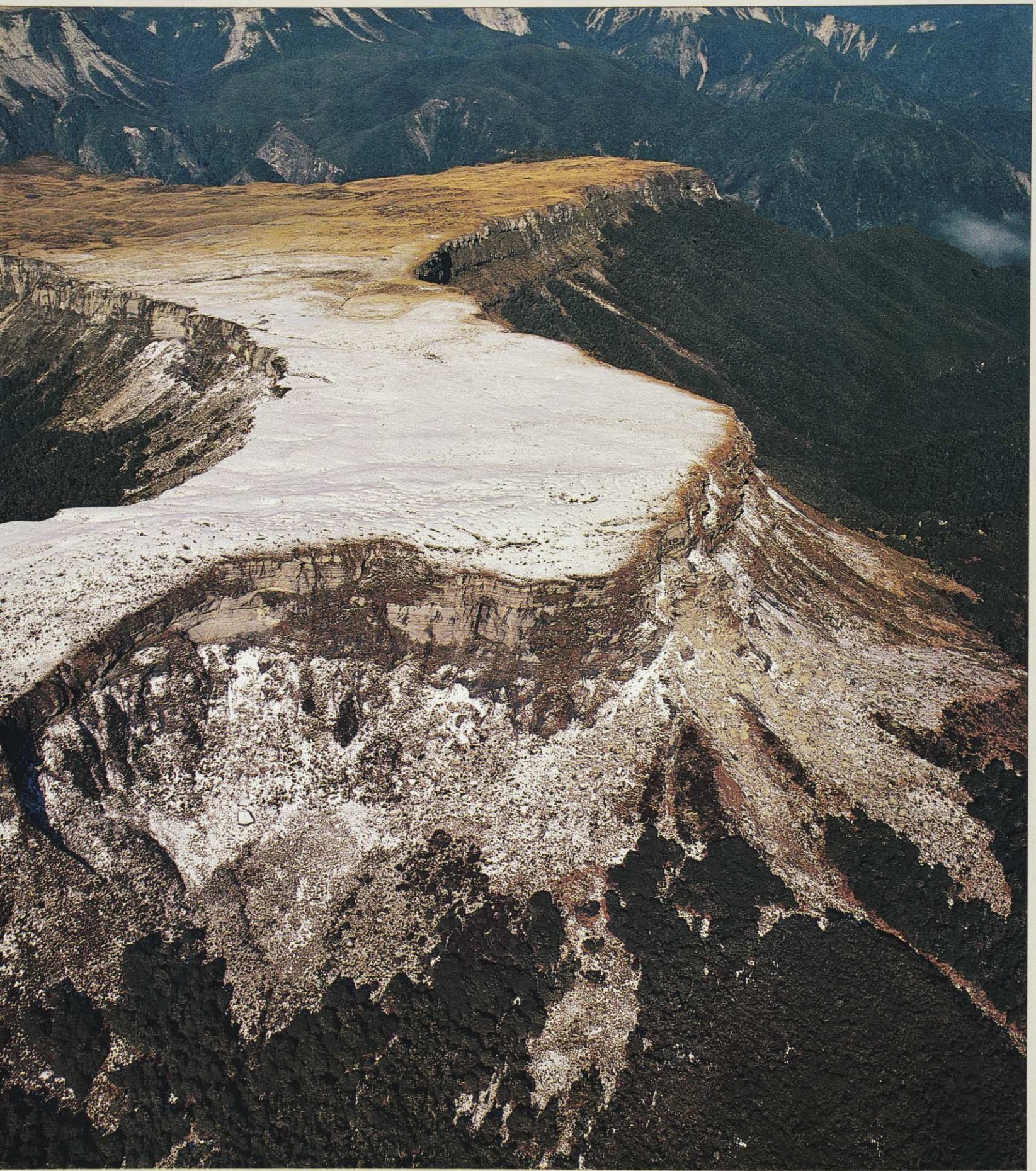
**H**IGH IN THE MIST-SHROUDED FORESTS of North-west Nelson lives New Zealand's largest, most handsome and least known kiwi - the great spotted kiwi (*Apteryx haasti*) or roa. Although it also occurs in Westland, the kiwi's stronghold is along the North-west's western coast. There are two distinct populations: one in rich lowland forest, the other in subalpine vegetation at heights of up to 1000 metres above sea level. The contrasts between the populations are sharp, sufficiently so that they will be different races. The upland kiwi, at home among hanging glaciers and snow, appears not to be disadvantaged by its harsh climate, and in fact is thriving, whereas its lowland counterpart is besieged by possums, traps and pigs. Photo: P & J Morrin



**T**HE ORIGINS of North-west Nelson's limestone "islands" such as the Matiri Range can be traced back 37 million years ago. Flanked by impressive bluffs, the plateaux of the Matiri Range support unusually fertile soils and hence a wonderfully rich and unique ecosystem, embracing an astonishing 437 plant species.

Photo: Craig Potton



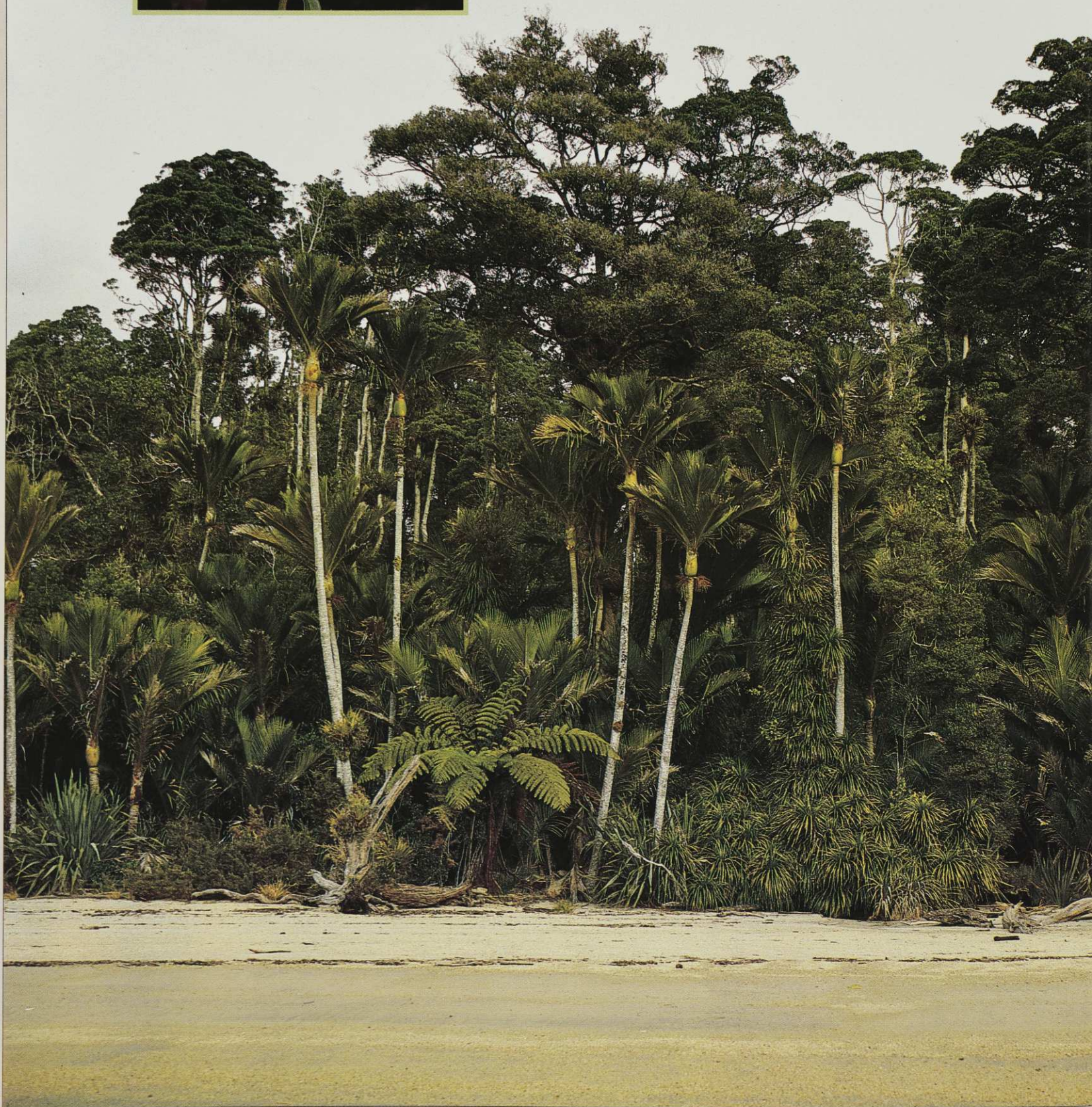


**L**IKE MOST OF New Zealand's ancient Gondwana fauna, the carnivorous land snails *Powelliphanta* have flourished in the absence of mammalian predators, grown outlandishly large, strong and colourful and live for a long time - perhaps as long as 25 years. About two-thirds of the world's *Powelliphanta* are confined to the proposed North-west Nelson World Heritage area. Photo: P & J Morrin

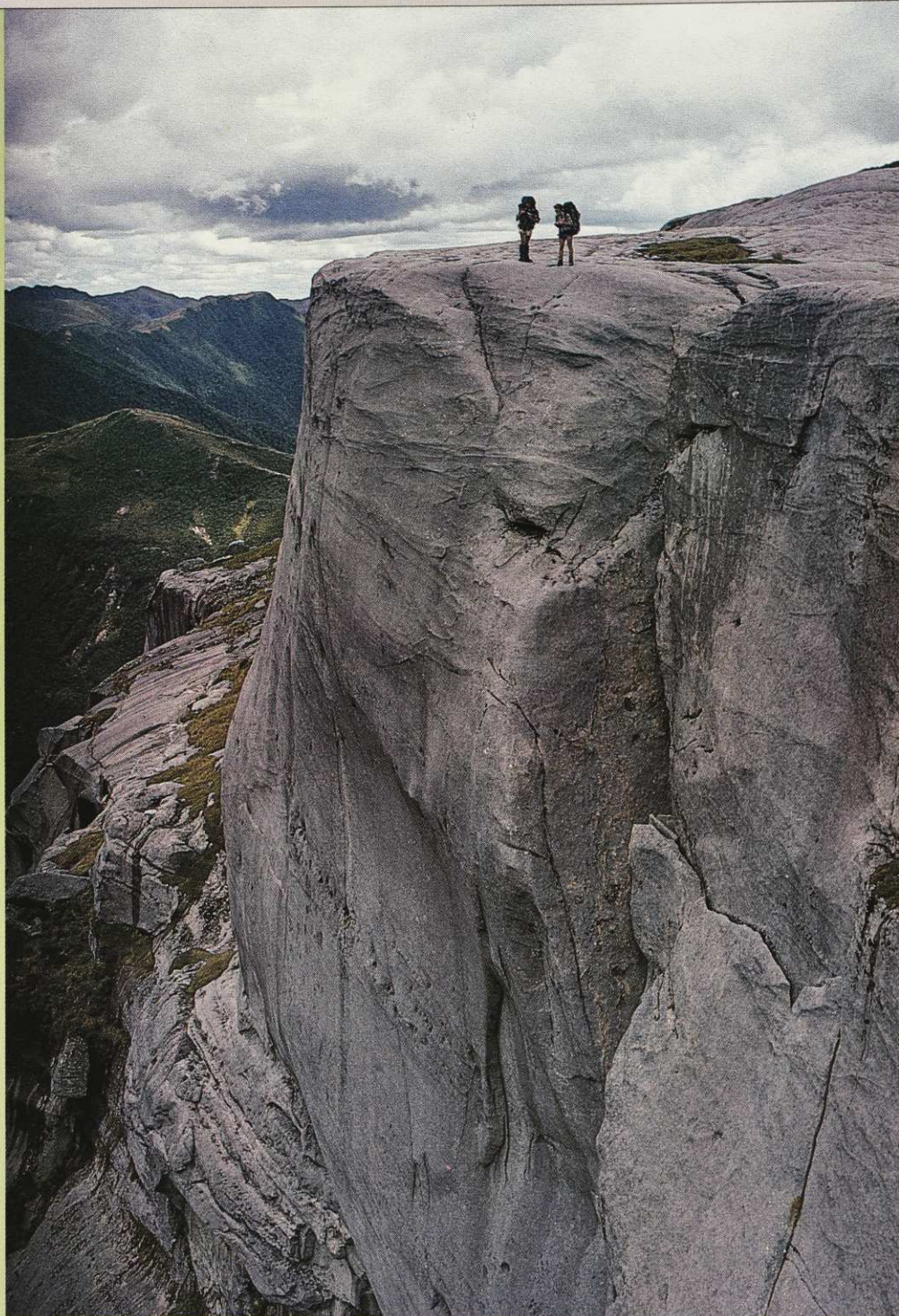




**N**ORTH-WEST NELSON contains an unparalleled array of micro-environments which have given rise to the richest plant species diversity in the country. A complex geology, different landforms, altitudes and climatic zones have all played their part. Alpine plants species in particular are abundant, such as *Celmisia dalli* (right) and *Gentiana spenceri*. Photo: Craig Potton

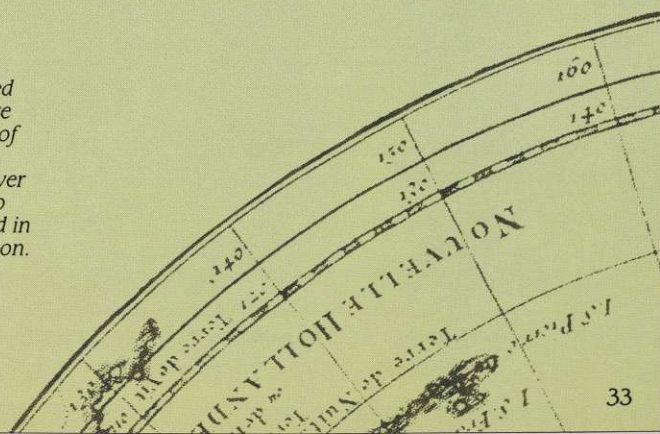






**S**TUNNING LANDFORMS in quartzose limestone, Garibaldi Ridge near Karamea Bend in the south-eastern corner of the Tasman Wilderness. Photo: Andy Dennis

**N**ORTH-WEST NELSON'S coastal forests are influenced by a warm, moist climate and are rich and diverse. A dense tangle of subtropical forest composed of northern rata, nikau, mahoe, silver ferns and kiekie extends down to the high tide mark. Birds abound in these forests. Big River tidal lagoon. Photo: Craig Potton







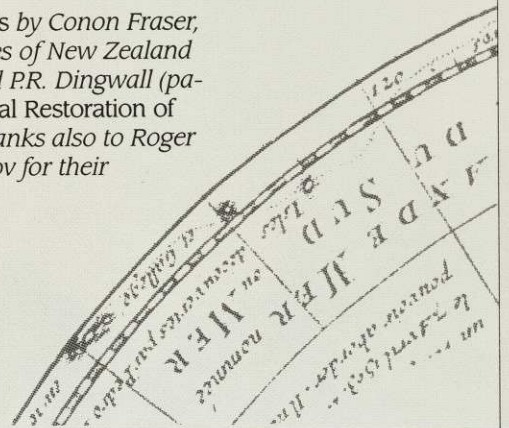
White-capped mollymawk colony, South West Cape, Auckland Island, looking towards Carnley Harbour and Adams Island. Photo: Kim Westerskov

World Heritage "natural properties" must fulfil four criteria. These are:

- 1 they must be outstanding examples representing the major stages of the earth's evolutionary history;
- 2 they must be outstanding examples representing significant ongoing geological processes, biological evolution and human interaction with the environment;
- 3 they must contain areas of exceptional beauty;
- 4 they must contain threatened plants and animals.

### References

Beyond the Roaring Forties by Conon Fraser, and World Heritage Values of New Zealand Islands by L.F. Molloy and P.R. Dingwall (paper appearing in Ecological Restoration of New Zealand Islands). Thanks also to Roger Grace and Kim Westerskov for their assistance.



## New Zealand's World Heritage Poster Series.

To launch the World Heritage Campaign, Forest and Bird has produced four magnificent new posters, sponsored by Trilogy Business Systems Ltd. Three feature the proposed areas, one the South-west.

The scenes depicted on the posters are the quintessence of the areas: a regal black-browed mollymawk (subantarctic), the famous giant spotted black grouper (the Kermadecs), the Oparara limestone area (North-west Nelson) and awe-inspiring Fiordland (Sth West NZ).

The photographers are: Barney Brewster, Roger Grace, Roger Moffat and Kim Westerskov.

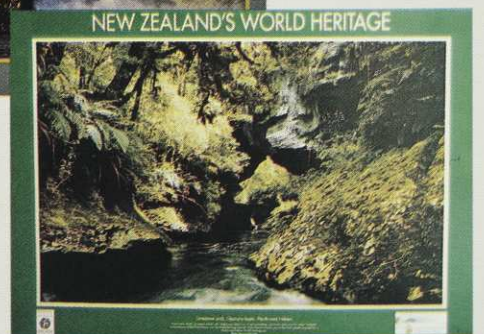
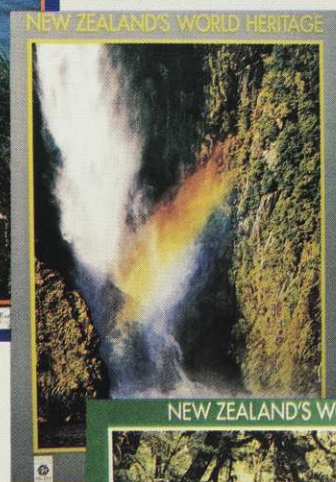
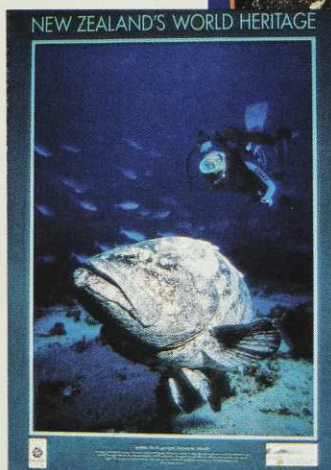
Support the World Heritage campaign. Buy the posters as a series (\$29 for 4, incl postage and packaging) or for \$10 each (incl postage and packaging).

Send your order to Forest and Bird Mail Order, PO Box 631, Wellington. Please send me the World Heritage poster series @ \$10.00 each or \$29.00 for 4.

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### Thanks

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## Denis Marshall – National's green conscience



Conservation Minister Denis Marshall gets to grips with one of his areas of responsibility – Antarctica. With him is the manager of the DSIR Antarctic Division, Hugh Logan. Photo: Christchurch Press

**W**ILLIAM SWAINSON (1789-1855) – one of New Zealand's early naturalists – would have approved. His great grandson Denis Marshall was recently appointed Minister of Conservation in the new Bolger administration.

By the time Swainson arrived in New Zealand in 1841, he was well known for his illustrations of birds and shells, although it was as a scientist that he would have preferred to have been remembered. However, Swainson's skills lay with illustration – as a scientist he was a failure – and somewhat discouraged he emigrated to the young colony where he turned to landscapes rather than bird portraits.

Unlike those of his celebrated ancestor, Denis Marshall's strengths lie less in the artistic field than in the administrative. Nevertheless, he has some impeccable credentials for his new position.

"I joined Forest and Bird at an early age, I think I was probably about ten. I used to treasure the magazine, but because I was sent away to boarding school I was not particularly involved in local Forest and Bird activities. Later I became more actively involved in community projects because I've spent more time at home in the last 20 years than in the first 25," Marshall says.

Home these days when he is not in Wellington is a sheep farm near Marton. The 47-year-old father of three is also a director of Rangitikei Marine, a company specialising in jet boats. His wife Annette is developing a family kiwifruit orchard.

Marshall's first active involvement with conservation was his election to the Rangitikei-Wanganui Catchment Board in the 1970s. Later to become the Central Districts Catchment Board, it is the board which in 1988 decided Electricorp should return water to the Wanganui River.

He rose to become deputy chairman during a period of what he describes as "evolution-

ary, probably revolutionary" change on the board.

"I spent nine years on the board and I felt during that time we made a significant contribution to conservation values. We picked up on some issues that were not issues of the day but they are now. For example we initiated the Wanganui minimum flows regime and encouraged farmers to develop farm plans for soil conservation. Lower hill country has been stabilised and any particular part that is likely to suffer from erosion like the Mangaweka deviation was all planted beforehand," Marshall says.

The much criticised – by conservationists – land development policies of the National Government between 1978 and 1982 were not all bad, according to Marshall. If you had a responsible agency such as a catchment board that was prepared to take an overview, then forest destruction could, and was, kept to a minimum. But that was the exception and more than 30,000 ha of native forest and 360,000 ha of shrublands was destroyed to make way for pastureland and pine forest in that period.

Now that National is government again, and considering that one of the cornerstones of their election policy was a commitment to economic growth, does he see a possibility that such controversial land clearances could be repeated?

"Well I think that environmental considerations are a key part of any decision. Once we were ignorant of how developments would affect the environment, but today we know that some of the things we are doing have an adverse effect on our future life on this planet."

Asked if he would like to see the Ministry for the Environment become a control ministry in the same way as Treasury, with an input into all decisions, Marshall is non-committal. However he does believe in the concept of environmental auditing, whereby

a downstream cost is taken into account as well as an immediate benefit.

"Treasury itself ought to be taking recognition of these factors – I think the people in Treasury have a lot to learn about what true costs and true benefits are. We need to broaden their horizons as to what the true financial cost is because the environmental cost could also be a major financial cost at the end of the day for somebody," he says.

The Treasury cost accounting approach has seen a steady decline in the Department of Conservation budget since it was set up in 1987. The new minister would like to usher in an era of stability.

"I think they (staff) have been through so many changes and so many reviews that we will be concentrating on making sure there is some stability and certainty in their operations.

"But I think that what we have to do better is sell ourselves to the general public. It's important that we don't compromise our standards in that but there is still a lot of ground to be made up in terms of selling good conservation values.

"I would acknowledge the tremendous advances that have taken place already in terms of an understanding by many involved in the commercial world, that they need to take into account conservation values. I hope that through the Wanganui example there is an awareness of the need to reach a compromise. An example is the agreement reached with Electricorp in the Waitaki basin where conservation values are being enhanced to the tune of \$3.2 million. That's the sort of thing that we've got to achieve right around the whole country."

On the question of DoC funding, Marshall does not suggest the department will avoid the "razor gang's" attentions, but equally he argues that DoC spending at \$100 million is "small change" compared to big spending votes such as Social Welfare and Education.



The top priority for Marshall is to ensure endangered species receive adequate protection.

"It's absolutely vital that we have got the resources to undertake successful recovery programmes and I'm very pleased we have got some assistance (from sponsors) to enable us to do that," Marshall says.

In the woodchip debate of 1989/90, Marshall stood out among National MPs in supporting a ban on the export of native woodchips but failed to convince his Cabinet colleagues who have recently unleashed a further 12 years of woodchipping in Southland's beech forests. He will not be drawn on whether rimu, totara, kauri or matai logs should be exported, but says National is starting out with "a clean slate" on native forests. Decisions on whether native forests will be protected through special forest legislation or under the Resource Management Act will be resolved by a committee headed by Environment Minister Simon Upton.

He feels the Treasury argument – that if you want to save something then you have to pay for it – is untenable, because "the cost will be impossible to meet. It would also elevate the value of land which people have no intention of milling at the present time. I think that it's a very short sighted policy."

Marine conservation is an area of Marshall's responsibility where he is certain to become involved in contentious decisions, with an increasing number of marine reserve proposals coming through in the next few years. However, he appears to be looking for-

ward to the challenge, and prior to the election promoted a marine park for the inner Hauraki Gulf. He is looking forward to two proposals – Kapiti and Cathedral Cove – "coming across his desk" shortly.

As for controversy, he points out that, in the legal sense, land conservation has a 100-year start on marine conservation.

"We are lucky in New Zealand because our population is not large and a lot of reserves were established when there was no population pressure. We are only just getting to grips with establishing conservation principles in areas where there are lots of other values and lots of other uses."

As one example, Marshall cites the plan to dump 10 million cubic metres of dredgings from Waitemata Harbour into the Hauraki Gulf. "Frankly I'm not impressed" is his reaction to the move by the Auckland Port Authority which is being forcefully opposed by Forest and Bird.

Marshall's responsibilities extend beyond conservation to science and agriculture, for which he is associate minister. He sees the combination of these portfolios as logical because of the important linkages between them, weed and pest management, for example.

As a farmer he has faith in the sustainability of New Zealand agriculture, stating that New Zealand farmers use "less fertiliser and fewer pesticides than anywhere else in the world."

Prior to the election doubt was expressed about the potential for the National Party to

green itself. Evidence for this view could be found in National's response to the Vote Environment questionnaire: many of the 100 questions were "passed" and a minority were answered in the affirmative.

However Marshall puts the party's poor performance in the survey down to a lack of adequate information.

"Take CO<sub>2</sub> emissions. We have in fact put in place a more rigorous programme of CO<sub>2</sub> emissions than the previous administration had. That is because on becoming government we had access to more information and we were able to make a decision in a rational way without being pressured into it," he points out.

While at present the jury may be out on National's commitment to the environment – three months is hardly long enough to judge – the verdict is more positive for the new minister. Personable and sincere, Marshall's gained a reputation in Opposition for his genuine concern about environmental issues and open consultation with environment groups. A former minister in the Labour administration agrees with the widely held description of Marshall but warns "just wait until he gets clobbered by National's caucus", a number of whom have reputations for their strong pro-development views.

However, environment groups will be hoping that Marshall does not become merely sidelined as National's green conscience but wins the support of his colleagues for the crucial conservation challenges of the 1990s. 🐦

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# CHANNEL CATFISH

## a matter of import

by Theo Simeonidis

*The destruction of 2200 channel catfish in September 1990 was an historic event. But will it mark the beginning of a new awareness over the perils of ill considered importations of exotic species?*

**W**HEN THE CHANNEL CATFISH, imported for an aquaculture venture in Northland, were destroyed at a Ministry of Agriculture and Fisheries quarantine centre in Upper Hutt, a long and involved saga ended. However, questions remain as to how a species posing an enormous threat to New Zealand's freshwater animals came close to being introduced into the country.

On several counts the catfish decision was highly significant: it was the first time in recorded memory that a newly imported species was destroyed; and it was probably the first time a species was destroyed on ecological grounds. As such the decision may mark a turning point in attitudes towards the importation of exotic species. It is to be hoped that no future Government will display such a cavalier attitude towards imports of potential pest species.

New Zealand's history is littered with the legacy of poorly researched and ill-advised animal and plant introductions which have had disastrous economic and environmental impacts. Plagues of possums and rabbits respectively exact a high toll on our native forests and high country grasslands. Introduced predators such as stoats prey heavily on birds.

It was against a background of increasing public concern over the damage to New Zealand's environment by pests such as possums that conservationists and anglers decided to draw the line on the channel catfish importation. The New Zealand Federation of Freshwater Anglers (NZFFA) researched and publicised the case and together with Forest and Bird's advocacy the Government was convinced the importation would be a serious mistake.



*One of the 2200 channel catfish destroyed by MAF veterinarian Colin Anderson. Voracious predators, the fish grow as heavy as 27 kg. Photo: NZ Herald*

### MAF – Judge and Jury

Dissatisfaction with the performance of the Ministry of Agriculture and Fisheries (MAF) over animal imports has been growing, especially over controversial decisions to allow the South American rodent chinchilla and the West Australian marron crayfish into the country. In 1986 the Ombudsman chastised the Ministry for its importing procedures and in June 1988 the MAF bureaucracy was taken to task by Parliamentary Commissioner for the Environment Helen Hughes over its handling of the proposal to import marron crayfish from Australia.

The Commissioner was critical of the inadequacy of MAF's approval procedures for considering importation applications. She criticised the manner in which marron was allowed into the country, the confused and often contradictory decision making process within MAF under which the application was considered, and most importantly, the very real concerns over the potential impact of marron on our freshwater ecosystems.

Less than 12 months later, MAF and its former minister Colin Moyle went down exactly the same path with channel catfish. The importation did not follow an acceptable due process and was fast-tracked by backdoor

means through the statutory process. Consider the following points.

- The Environmental Impact Assessment (EIA) prepared by MAF Fisheries was inadequate, raising more questions than it answered, and was not a sound basis on which to judge the merits of importation. Overseas research on channel catfish was either ignored or simply not located. Yet a voluntary organisation, the NZFFA, discovered more than 10 major studies highlighting the predatory and competitive behaviour of the catfish in areas of the United States where the species had been liberated outside its natural range. It also obtained expert opinion from respected US fisheries authorities who attested to the ecological dangers of the importation.
- The Parliamentary Commissioner for the Environment stated in her August 1989 newsletter that the EIA was inadequate.
- The distribution of the EIA to interested parties was restricted. Neither the Federation nor Forest and Bird received copies; it was never publicly released or advertised. MAF belatedly distributed the EIA to about 35 iwi and asked for comments. As the document was never explained to the Maori community, the possible impact of catfish on native



## A chronology of events

### July 1988

Environmental Impact Assessment (EIA) prepared under contract by MAF Fisheries for Presbyterian Support Services.

### 18 August 1988

Support apply to MAF for consent to import "the stock or fertile ova" of channel catfish into New Zealand claiming that "... the findings of the EIA speak for themselves and that there are many compelling reasons for early approval of importation..."

### October 1988

The EIA is distributed to a restricted number of interested parties by MAF-Fish. The Federation of Freshwater Anglers and Forest and Bird find out about the existence of a detailed proposal and obtain a copy of the EIA in January, two months after submissions to MAFFish close.

### December 1988

MAF is concerned over the legal tests to be applied under the Animals Act 1967. It is claimed that the refusal to grant a permit on environmental grounds would be open to legal challenge by Support. (This view is not held by the Ministry for the Environment/MFE or Parliamentary Commissioner for the Environment (PCE). MAF seeks a more specific set of criteria in the Animals Act to provide clearer directions to the decision-maker to enable balancing of the matters to be taken into account.

### 12 December 1988

Cabinet agrees to proceed with an Animals Amendment Bill. Until such time as the Bill receives the Royal Assent, the importation of channel catfish is prohibited by the Customs Import Prohibition (Aquatic Fauna) Order 1988, brought under the Customs Act on 22 December 1988. The Order-In-Council will be withdrawn on the forming of the Amendment Bill.

### 23 February 1989

MAFFish completes review of responses to EIA from those who had been invited to comment on EIA.

### 16 March 1989

MAF undertakes review of the importation proposal against the criteria of the draft Animals Amendment Bill. It concludes that there is an insufficient case to permit the importation of channel catfish.

### 2 May 1989

Animals Amendment Bill introduced into House. It is referred to the Primary Production Select Committee.

### 8 May 1989

Minister of Agriculture submits verbal recommendations to Cabinet in favour of allowing the importation of channel catfish. These recommendations are based upon a substantially incorrect and misleading MAF paper. No Cabinet paper is presented or discussed and Ministers are inadequately briefed on the issue. Cabinet agree that channel catfish be allowed into New Zealand subject to certain terms.

### 22 May 1989

The Animals Amendment Bill is pre-empted by the Customs Import Prohibitions Order (Aquatic Fauna) 1989, which revokes the earlier Order. It prevents the importation of live channel catfish at any stage of its life cycle, subject to the comment of the Minister of Agriculture and such conditions as the Minister thinks fit to impose.

The Animals Amendment Bill remains unpassed.

### 15 June 1989

An interdepartmental meeting of officials is convened to consider any evidence against importation of channel catfish. Federation of Freshwater Anglers makes a submission citing opinions from experts in Michigan and South Carolina warning against importation. It is ignored.

### 16 June 1989

Minister of Agriculture grants consent to importation of the catfish. He retains the right to order the destruction of the stocks if he considers "...on the basis of the information presently available or as a result of tests or research carried out, or any other reason that the fish pose an

unacceptable hazard to New Zealand." It is intended that environmental trials be conducted during the period of the catfish's quarantine.

### 21 June 1989

Channel catfish eggs are imported.

### August 1989

Parliamentary Commissioner for the Environment states in her monthly newsletter that the quality of the EIA for the channel catfish application was inadequate.

### July-December 1989

Unsuccessful MAF efforts to design meaningful trials for assessing impact of channel catfish on New Zealand's freshwater ecosystems.

### January 1990

FFA institutes Ombudsman's inquiry following MAF decision to withhold information relating to importation.

### May 1990

MAF advises in newsletter of its intention to transfer the catfish to owner-operated quarantine in Auckland from June 1990.

### May 1990

FFA and Forest and Bird form coalition to step up the campaign against channel catfish. Petitions, letters to MPs and Ministers follow.

### May/June 1990

Further documented research evidence and expert opinions against channel catfish received from North America: Washington/Oregon; California; Utah/Colorado; Michigan; Florida. The evidence against channel catfish is overwhelming.

### June 1990

Minister of Fisheries establishes an Independent Review Team (IRT) to consider all relevant available information on channel catfish and make recommendations, by 20 July 1990, on whether the environmental risks posed by channel catfish are acceptable or unacceptable. FFA presents two detailed submissions and copies of overseas research evidence.

### 20 July 1990

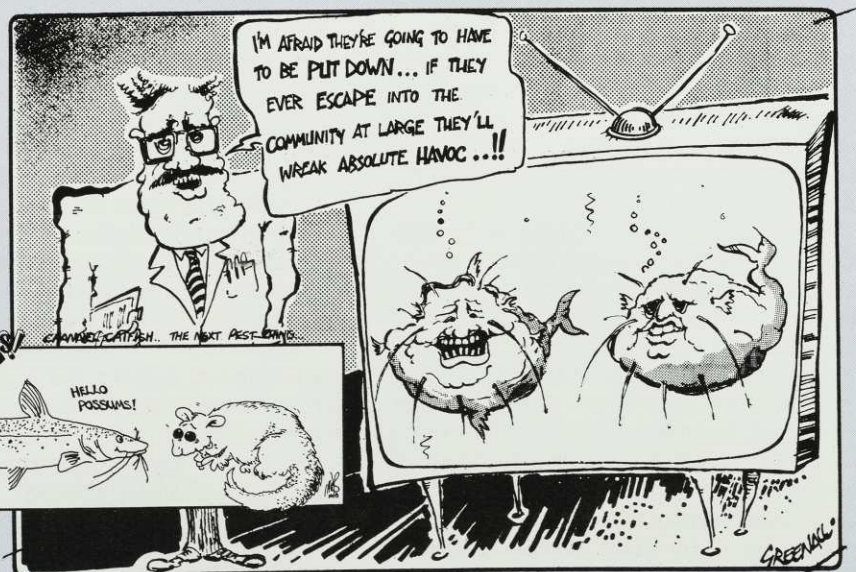
Minister receives IRT report which concludes "... that one or more value species is more likely than not to suffer an unacceptable decline in abundance or distribution as a consequence of the introduction of channel catfish. Accordingly our recommendation to the Minister is that the environmental risk posed by the channel catfish is unacceptable."

### July - early September 1990

Minister advises Support he is of the preliminary view that channel catfish pose an unacceptable environmental risk and they should be destroyed. Support is given an opportunity to respond to the report and present any new information in support of its case. The responses received do not persuade the Minister to change his preliminary view.

### 20 September 1990

Channel catfish stocks destroyed.



Cartoonists relished the catfish saga.



freshwater fauna of importance to Maori was not understood.

- On 8 May 1989 Agriculture Minister Moyle spoke to Cabinet in favour of allowing the importation of channel catfish. His recommendation was based upon a substantially incorrect and misleading MAF briefing paper to its Minister. No Cabinet paper was presented and ministers were inadequately briefed on the issue. The Cabinet decision to proceed with importation was therefore based on incorrect information and eminently challengeable.
- MAF advised its minister that environmental trials could be undertaken to assess the impact of channel catfish in the New Zealand environment, even to the extent of releasing catfish into natural environments to assess their impacts. In the US it had been shown that catfish could not be eradicated once established in the wild.
- MAF advised its minister that "a source of catfish eggs of acceptable health status has been identified." Yet at the time the import permit was granted, both MAF and the minister knew that the source broodstock, from which the eggs were obtained, had disease.
- In advising its Minister, MAF claimed to have "firm economic advice that the project has a reasonable chance of success." Yet some six months later the project's executive marketing officer said no market studies had been undertaken to find out what level of acceptance the catfish would have with consumers.
- The importation reversed the onus of proof. Instead of placing the onus on the proponent to prove that the new species would not have any adverse impact, MAF and its Minister took the view that if there was no evidence to the contrary, they might as well take a gamble.

One of the factors contributing to the catfish fiasco is MAF's structure. As a large government agency with diverse responsibilities, it has inherent conflicts of interest.

In relation to the catfish application, MAF acted as:

- *consultant* to the importers (a joint venture between Presbyterian Support Services and the Muriwhenua Incorporation), by preparing an EIA and supplementary report for financial return. The supplementary report published in *Freshwater Catch* 41, Spring 1989, appeared to be little more than an attempt to justify the importation;
- *distributor* of the EIA and *receiver and analyser* of submissions on the EIA on behalf of the proponent;
- *arbiter/advisor* on whether the importation should proceed;
- *advocate* for aquaculture;
- "*independent advisor*" to the Minister of Agriculture;
- *quarantine manager* (on contract to the importers) for financial return;
- *guardian* of the ecological estate.

A letter dated 6 April 1989 from Northland Support to MAF Fisheries highlights these conflicts:

"My secretary in Whangarei has been busy gathering supplemental information regarding overseas experience with catfish to further bolster the extensive material in the EIA. Hopefully this will provide the people at Gillingham House with yet more ammunition to ward off any possible anticipated attacks

## Just when you thought it was safe...

THE CONTROVERSY over new animal imports does not end with the channel catfish victory. Marron crayfish and chinchilla (a South American rodent) have both been imported into New Zealand in recent years and hard questions are now being asked as to their potential impacts on the environment.

Marron crayfish, a native of West Australia, were imported in 1987 under dubious circumstances. The Parliamentary Commissioner for the Environment questioned the Environmental Impact Assessment but licensing for a farm at Warkworth went ahead nevertheless.


At the time fears were raised about the possible ecological impact of the crayfish after it was discovered they had been banned in Victoria and Tasmania on the grounds they would predate on the native freshwater fauna in those states.

The issue came to a head in December 1990 when reports came in from around the country of the crayfish being sold in fish shops, hotels and restaurants. As a result, Forest and Bird and the Federation of Freshwater Anglers called for an independent review along

the lines of the catfish inquiry.

New Fisheries Minister Doug Kidd responded to our concerns by announcing the Government would begin negotiations to buy the Warkworth farm, and that further live sales were banned.

When chinchilla were imported in the mid-1980s, the importer was granted a licence to farm them only in the North Island. They were specifically excluded from the South Island on the grounds that the South Island high country most closely resembled their South American habitat.

Since then however the terms of the licence have been challenged and overthrown, and today chinchilla are freely sold as pets, including in the drier areas of the South Island. Concern has been expressed that they could become another rabbit-like pest. Forest and Bird has joined the growing body of organisations calling for the destruction of the chinchilla before the inevitable escapees establish wild populations. These organisations include several South Island local bodies, High Country Federated Farmers and the Mountain Lands Institute. 



*Chinchilla, "the ideal pet for working people because they are active in the early morning and again at night." (Dunedin pet shop owner). However Forest and Bird believes the South American rodent may pose a threat to New Zealand's environment.*

Photo: Dominion Sunday Times



*An environmental handful. Chairperson of the Auckland Regional Council's resource management committee, Mrs Jean Sampson, holds aloft two marron crayfish during a visit to the Warkworth farm. Photo: New Zealand Herald*

by the dreaded extremist environmental critics," it reads. (Gillingham House is MAF's Wellington Head Office.)

### Maori Values

A supreme irony of the catfish story is the fact that one of the partners, the Muriwhenua Incorporation, which has a concern for traditional fisheries, was advocating the importation of an alien, predatory species which would decimate the native fisheries to which its people have a cultural attachment.

The venture was promoted as a Maori initiative and it was claimed that a refusal would be viewed as anti-Maori. However, the reality is that the impact of channel catfish on native freshwater fisheries - which are of significant cultural importance to Maori - would have been devastating. Our efforts in opposing the importation were strongly supported by a number of iwi.

A disappointing feature of the debate was

the eleventh hour approach made to the Waitangi Tribunal by the proponents seeking an interim tribunal ruling inviting the Minister of Fisheries to postpone destruction of the catfish. Such an approach achieved little but brought the Tribunal into disrepute.

It was indeed ironic that the Tribunal, an institution created to help protect Maori values and access to traditional resources, should be called upon to support the exotic catfish.

Of importance to Maori also are the central North Island trout fisheries. The trout fisheries of the Rotorua Lakes and Taupo are gems which have been established through a partnership between the Crown and Te Arawa and Ngati Tuwharetoa. Ngati Tuwharetoa receive \$500,000 a year in funds from their share in Taupo licence fees and from fines. Direct angling-expenditure pumps close to \$50 million into the Taupo/Rotorua economies. The capital value of business assets



employed to cater for anglers in these districts approaches \$250 million.

### The Turning Point

The turning point in the debate was 17 May 1990. An NZFFA/Forest and Bird deputation (Russell McKendry, Kevin Smith, Mark Bellingham and myself) met with new Agriculture Minister Jim Sutton. At that meeting it quickly became apparent that either Sutton had forgotten his lines or his officials had fed him some incorrect ones. For example he would not accept that he had the authority to order the destruction of the channel catfish without compensation. The relevant clause of the Consent to Importation (signed on 16 June 1989 by his predecessor) was quoted to him.

Officials remained silent throughout that meeting, perhaps realising that the importation was indefensible. Soon the Minister was literally saved by the bell – the division bell summoning MPs to the debating chamber to vote. Calling the meeting to an end, a relieved Sutton lit up a smoke and darted off to vote in favour of the Government's anti-smoking legislation!

By now the efforts of many concerned people writing to their MPs, to newspapers and by signing petitions, were starting to tell.

The meeting with Sutton was followed immediately by a strongly worded letter demanding the destruction of the catfish stocks. A copy was sent to Prime Minister Geoffrey Palmer who was becoming increasingly aware of the procedural impropriety and irregularities surrounding the importation. His own Ministry for the Environment officials ensured he was fully briefed on the issue.

With the national pressure mounting, nervous government MPs raised the issue in caucus in late May. By that time the catfish were at the stage of nearly exceeding the capacity of the MAF quarantine facility. MAF advised they would shift them to an importer-controlled secondary quarantine centre, a move we strongly opposed. Fisheries Minister Ken Shirley, who had by this time been handed responsibility for the fate of the catfish, was reluctant to take any action, preferring to leave the issue over to an incoming government after the October election.

Geoffrey Palmer fortunately won the day, demanding that the importation be properly examined. Shirley appointed an independent review team which several weeks later handed him a report concluding that channel catfish posed an unacceptable risk to the environment, vindicating the stance the Federation of Freshwater Anglers had taken against channel catfish for 20 months.

### Other Players

The Department of Conservation and its minister were conspicuously absent from the debate. Philip Woollaston, who was not in Cabinet when Colin Moyle approached it for support in May 1989, was presented with a *fait accompli* when the proposal received Cabinet backing.

The National Opposition took the issue up and raised appropriate questions in Parliament, but they failed to fully exploit the Government's vulnerability to charges that, while it was grandstanding on global environmental issues, it was prepared to place

the local environment at risk by allowing the importation.

### Summary

In June 1989 after the channel catfish eggs arrived in New Zealand, I was disappointed at the defeatist attitude of many who had accepted that the decision would not be reversed.

Our success demonstrates that nothing is impossible provided we demonstrate a cast-iron commitment to the values we believe in. The favourable result is a fitting reward to the wide range of people who stood up and weighed in when it finally mattered.

We must continue to be vigilant to ensure that similar episodes to the channel catfish fiasco are never repeated. 🐦



*Theo Simeonidis is President of the New Zealand Federation of Freshwater Anglers. A keen angler and conservationist, Theo has been active in the Vote Environment and Action on Resource Management coalitions, both of which Forest and Bird is a member. He received a 1990 Conservation Medal for his services to conservation.*

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# NET LOSSES

by Mark Feldman



*Hector's dolphin, caught in a gill net. The threat to the long term viability of this species led to the creation of the Banks Peninsula Marine Mammal Sanctuary in December 1988. Photo: Steve Dawson*

**I**T WAS LATE SPRING and the school of kingfish was moving along the East Coast towards its summer home in Doubtless Bay. The leader of the school was a powerful fish that weighed just over ten kilograms. He was a beautiful creature with a dark blue-green back and silver-white belly. A bright yellow stripe along his side separated the other colours and splashed onto his muscular tail. That powerful tail propelled him effortlessly through open water as the school prepared to look for a place to feed.

Finding food these days was an easy matter, and represented no real challenge to the young leader. In earlier years they had been forced to chase schools of koheru and mackerel offshore where it took considerable teamwork to corner their prey. It was far easier to catch their food near reefs and rocky shorelines but there had always been resident kingfish at these reefs. The resident fish were much older and larger. They guarded their

territory jealously, seldom giving the school enough time to eat before the young kingfish were driven off.

But now most of those big kingfish were gone and the school was free to feed wherever they chose. There was also lots to eat. There were more koheru and mackerel than the young leader could ever remember. Most of the kingfish and kahawai that used to compete for food had been caught by humans. As a result, the smaller mackerel had been able to increase their numbers unchecked. It was a simple matter to herd these small fish into a tight school and then drive them up against a rock face where the kingfish could take turns swooping in for their morning meal.

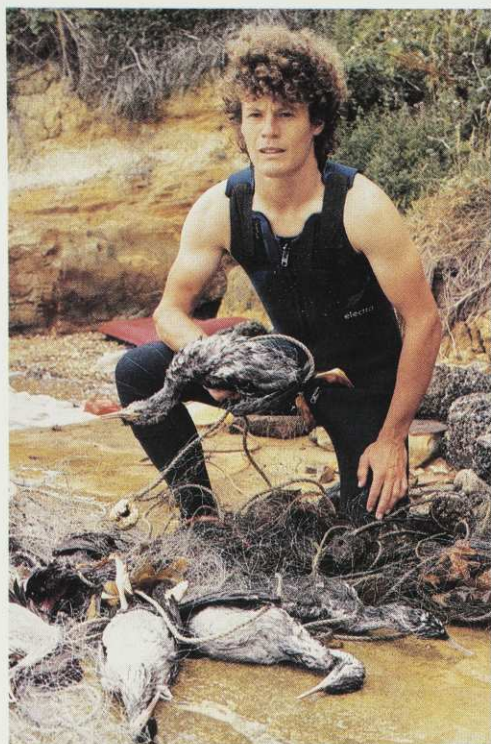
Life was easy for the school of young kingfish but danger lurked wherever they travelled. The last leader of the school had been caught by some sort of nearly invisible net. The monofilament strands of the loosely set net had tangled around his fins and

scales. The more he struggled the more the net settled around him. After struggling for hours death had finally overtaken him.

A few other members of the school had perished in that net as well. The new leader did not understand how the nets worked but he knew they represented a slow death for any fish that was unlucky enough to be caught. He had witnessed what happened to the last leader and had swum around the net for almost an hour as the school watched the trapped fish struggle to get free. Finally they had given up and moved on, leaving their leader and compatriots behind to die slowly in the dreaded net.

Now the school was fast approaching the rocky headland near the entrance to Doubtless Bay. There were always lots of small mackerel to be found milling around the cliff faces and the kingis were hoping to find an easy meal there. In the past years there used to be several thirty kilogram kingfish living



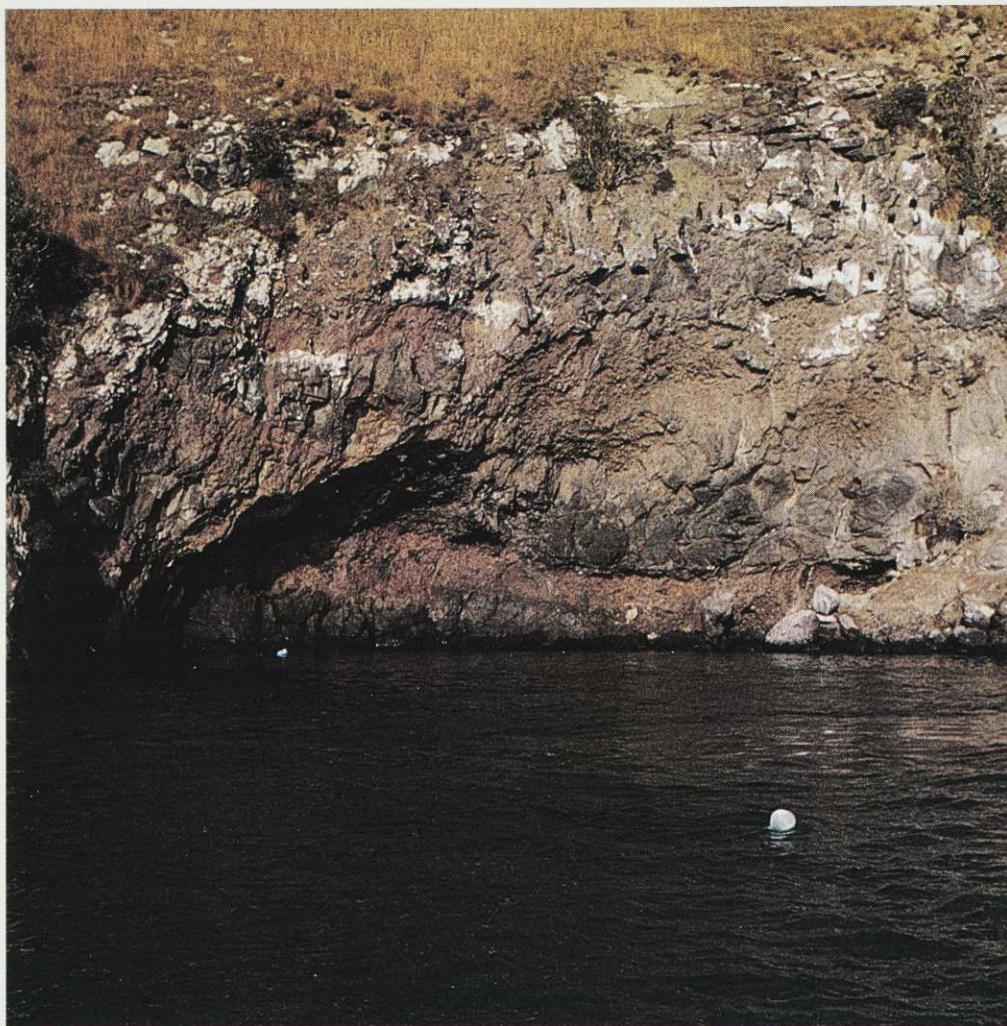


Right: A net set directly under a shag colony, Otago Harbour. Above: Forest and Bird executive member Graeme Loh with the casualties.

along the rocks but they had been caught by the many recreational fishermen that came by, leaving the mackerel and the hunting grounds to the smaller school fish.

Unfortunately, spread out before them, invisible and unmoving, was 500 metres of loosely hung gill net. The lead fish never sensed the net and suddenly found himself swimming at full speed into a curtain of death. By the time he saw it there was no time to turn. He was too big for his head to fit through the mesh but his fins and tail quickly tangled in the monofilament. As he struggled, more of the net wrapped around him until he was held virtually motionless.

The nylon that trapped him was teeming



with millions of bacteria and fungi, left over from the infections of earlier victims of the net. While the young leader struggled, the nylon wore away the protective mucous that covered him and began to get under his scales. The fast growing bacteria found it easy to gain access to the fish's skin and soon began to colonise his living tissues.

Within an hour the kingfish sensed move-

ment in the net. He was being pulled upward, towards the dark shadow of a boat. As the net was pulled tight, its mesh spread apart and the king's trapped fins began to work free. Finally, when the net was only a few metres from the boat, the mesh spread far enough for the kingfish to drop out and swim weakly away. He was free!

As he moved through the water his gills

## Gill net update

**T**HE FIRST STEP taken by the MAF Fish Board to deal with the destructive effects of gill nets was a regressive one. They abdicated all responsibility for gill net control to the individual Fishery Management Plans (FMPs) being developed in various parts of New Zealand. This was clearly an attempt to delay decision making and diffuse responsibility. But it was not totally unreasonable because gill nets ARE used differently in the various fisheries around the country.

The first of the FMPs to be proposed (late 1989) was for the Auckland Zone, the top half of the North Island. This is the area where most New Zealanders live and where most recreational and tourist fishing occurs. Amazingly, there was virtually NOTHING in the proposed FMP about regulating gill nets! There were only promises of additional evaluation and a short list of their harmful effects.

The public response was clear; the lack of set net regulation was the most common complaint in 900 submissions representing many thousands of people. Additional information came from a survey by *New Zealand Fishermen* conducted during the winter of 1990. It revealed that 92 percent of the country's recreational fishermen wanted gill nets

eliminated from within two miles of shore. It also showed that 16 percent of recreational fishermen use gill nets, a figure that corresponded with an earlier MAF survey. Amazingly though, more than half of the recreational fishermen that use gill nets would be happy to give them up if IF commercial gill nets were banned!

So the situation was clear. In the Auckland Zone 225,000 recreational fishermen wanted to see an end to commercial set nets. In opposition to them were only 422 commercial gill netters. Of these 422 fishers ONLY 167 of them used gill nets for a significant percentage of their activities!

In response to this conflict a Set Net Task Force was established in June 1990. By September 1990 they had met six times and submitted two reports. Representation on the task force was lopsided to say the least. There were five commercial fishery representatives for 422 fishers and one representative for 250,000 recreational fishermen! In addition there was one representative from the Underwater Association, one from Greenpeace (100,000 members) and one from Forest and Bird (60,000 members). There were also several MAF officials and various numbers of other observers which sometimes varied the ratio slightly.

Clearly the task force was structured to the advantage of a handful of gill net fishers and the second report reflects that. Most of the report deals with how gill netters could improve their techniques to reduce the killing of mammals, seabirds, turtles, sharks and non-targeted fish species. Many excellent suggestions were made here and some might actually help reduce the terrible side-effects of gill netting. Examples were increasing net mesh sizes, closing hazardous reef and current areas to nets, decreasing net length, increasing use of buoys, outlawing trammel nets and decreasing soak time of nets. In an effort to gather more information the task force also sent out a questionnaire for recreational gill-netters to respond to.

If every gill netter was an ardent environmentalist and IF MAF had the funds and personnel to enforce new regulations then SOME of the proposals would make a little sense. But we live in a different world than that. MAF cannot enforce the present regulations, even in areas around Auckland, and most gill netters I've met are certainly not environmentalists. And, most importantly, none of the proposals solve the most significant problems produced by the nets.

The important issues that were not solved by the task force were how to protect reef





brought more and more life-giving oxygen to his tissues and the weakness began to ease. But as the hours passed, the pain under his scales increased and it became more and more difficult to flex his skin when he moved. By the next day the bacteria had begun to spread into the bloodstream of the stressed fish. As the bacteria spread inward, fungal spores began to grow in the damaged skin



and increased the pain and swelling under the rigid scales.

The once powerful kingfish became progressively weaker and immobile as the infections gained momentum. By that night he settled near the bottom, exhausted by his struggles. The fungi and bacteria continued their attack and soon overwhelmed his weakened immune system. With the coming

Left: Recently Thelma Wilson (DoC New Plymouth) had to rescue a fur seal pup trapped in a set net. The pup fortunately survived the traumatic experience.



In 1986, of the 2266 vessels in the domestic fishing fleet, 406 were set net vessels.

of the dawn the kingfish began to be pushed by the tide towards a small beach. His skin was covered by the fungal growth that had found easy purchase in the many wounds from the net. His blood was swarming with the bacteria that had effortlessly got in the same way. He finally found death on an empty beach, under a cloud of hungry gulls.

A few minutes later the gill net fisher's boat sped by. He was heading out to check his gear. He noticed the flock of gulls on the beach but was unaware of where they had got their meal that day. Just as he was unaware of so many of the other, unnecessary deaths caused by his nets as they lay under the sea. 🐟

fish, how to reduce the killing of non-targeted quota species, how to reduce the wastage (50-70 percent of species caught) inherent in gill nets, how to reduce the flow of netted fish to the black market, how to prevent the destruction of the recreational fishery (60 percent of the commercial catch of kingfish is in set nets), how to avoid local depletion of fish in harbours and how to protect the seabirds and mammals that live throughout the Auckland Zone.

In short, the task force had no solutions to the destruction caused by set nets. So, what are the effective options we have? The report written by Mark Davison of Greenpeace on the use of set nets advocates the elimination of all set nets except those necessary to catch species that cannot be caught any other way; and then to have those fisheries highly regulated to prevent abuses. In the Auckland Zone that boils down to using gill nets ONLY in the estuarine mullet and flounder fisheries. All other species that are important commercially can be caught by other means. Forest and Bird and the Sport Fishing Council are in agreement with the elimination of all gill nets except those used for mullet and flounder by commercial fishermen.

Unfortunately, even the nets used for flounder and mullet can be used to target snapper,

trevally, kahawai and parore. Because of these potential abuses, recreational set nets should be eliminated completely from the Auckland Zone. Commercial fishers that supposedly target flounder and mullet should not be allowed to do so unless they have adequate quota for trevally, kahawai and snapper. Most importantly, ALL set nets should be banned from areas that support substantial recreational fisheries like Mangonui, Bay of Islands, Whangarei and significant areas around Auckland.

The destructive effects that set nets have already had on our recreational fishery, tourist industry, marine birds and mammals, reef fish and quota regulated species will take many years to correct. The desires of a few hundred gill netters cannot be allowed to interfere with the needs of millions of people and the health of our oceans.

There have already been too many delays. We should have had the gill nets out of our waters a year ago. 🐟

Mark Feldman is a Mangonui fisher and conservationist who wrote an article for the May 1990 issue of *Forest & Bird* on the quota system and its effect on fish species such as kawhai.



Cartoon courtesy of Christchurch Press



## The California example

**N**EW ZEALAND IS NOT the first country in the world to have to face the gill net issue. New York State banned gill netting in their part of the Great Lakes years ago; the other States and Canada followed later. Florida, the vacation centre of America, eliminated all gill nets from the coastline around the Everglades and severely restricted their use elsewhere. British Columbia is well on the road towards eliminating gill nets completely. Even Australia (except Tasmania) has banned amateur gill net fishing.

But California, with its many similarities to New Zealand, can teach us the most. In 1983 gill nets were banned from many areas because of the disastrous killing of scores of harbour porpoises and over 30,000 common murres, a Pacific seabird. Later the nets were banned from the migratory paths of the grey whales in Northern California because the whales were becoming entangled.

Despite these restrictions the use of gill nets in California continued to grow. From 1981 to 1985 the number of commercial gill net permits rose from 340 to over 1,000! The reason was simple; gill nets are

a cheap way of catching fish. The fact that they catch unwanted fish, sharks, seabirds and mammals was of no concern to the commercial lobby that had powerful financial ties with the California State Assembly. And as long as the commercial fishing lobby supported the financial needs of select California Assemblymen the carnage was allowed to continue.

But rebellion was growing among the people of California. The recreational fishermen had seen the gill nets destroy the sports fishery. Rock cod, halibut and California yellowtail were virtually gone and, by the end of the 1980s, the gill netters were killing the sharks and rays off while they targeted the last of the swordfish. In early 1990 the latest Bill to eliminate gill nets was buried by the Wildlife Committee of the Assembly as a result of the commercial lobby's organization and financial clout.

Finally the people acted. Assemblywoman Doris Allen joined forces with the Committee to Ban Gill Nets and raised \$400,000 in four months. In the same period of time they also got a staggering one million signatures on a petition to

ban the dreaded nets.

In America such petitions have great power. They are the key mechanism to overcome the laxity of easily influenced State politicians. If enough signatures are obtained on a petition, then that petition appears on the ballot at the next election. If the people approve it, the petition becomes law.

You can guess the rest of the story. On November 6, 1990, the people of California voted on the wisdom of eliminating gill nets from their waters. Their judgement was clear and final. The gill nets were banned and for the first time in many years there's hope that the fish will return.

Perhaps New Zealand can learn something from the people of California. The Americans waited until their fishery was almost destroyed before they finally acted. It took them a full decade to realise there's no way to police gill nets nor is it possible to protect the creatures of the sea while gill nets are in the water.

Maybe, this time, the people of New Zealand can profit from others' mistakes WITHOUT repeating them. 🐟

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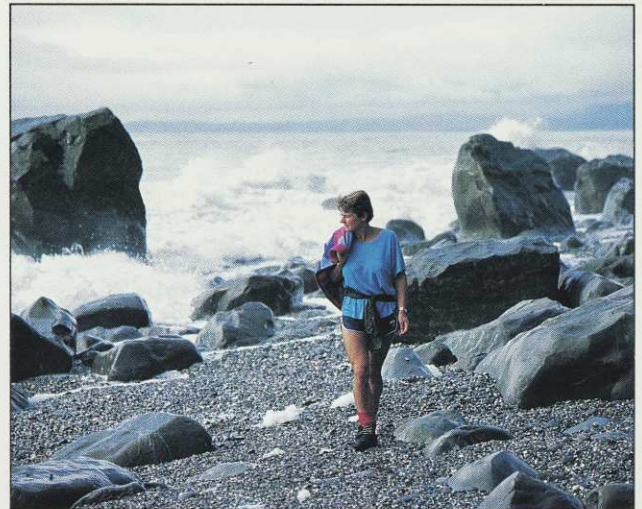
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# Torpedoes over Muriwai

by Sioux Bennett and Phil Braithwaite



*Gannets are supreme fliers and expert divers for fish.* Photo: Rob Greenaway

**T**HE GANNET folds its wide wings, black leading edges contrasting sharply with its pure white body, and plummets like a stone into the churning water below. From 10 metres up, the silver flicker of fish has been spotted and the never-ending hunt for food continues. The momentum of the dive and strong thrusting feet ensure another herring is caught in its sharp beak and the gannet resurfaces, lifting itself effortlessly from the tossing waves into a turbulent grey day.

It is late September and Auckland's west coast turns on a squally buffeting morning. As many of Auckland's surfing fraternity will attest, some of the best surfing conditions in the region are to be found where the Tasman

Sea rollers smash themselves to spray on Muriwai Beach. The word "Muriwai" translates from Maori as "backwater" – an apt name for what was until recently a quiet area for retirement, alternative lifestyles and fishing. Lately, however, Muriwai has grown: not just with surfers and city folk building weekend retreats, but also with a burgeoning colony of Australasian gannets.

The gannets have been nesting on Oaia Island just off the most popular surfing area at Muriwai since the turn of the century. The demand of a steadily increasing population for nesting space has meant a minor invasion of the mainland over the last few years and the birds have established nests on a precar-







ious pinnacle of rock just offshore and a workable beachhead on a coastline outcrop opposite their original site. Apart from a late-night attempt at repulsion by some shotgun-wielding louts, locals have welcomed the gannets.

Forest and Bird's North Shore branch provided the spur to protecting the mainland population. In the mid-1980s branch members erected a fence to separate the humans from the birds. They then lobbied the Auckland Regional Council to build something more substantial, and provided some funds for the work. The Council, which administers all parks and reserves in the region, has improved the road and has also laid a short walk track to a decked lookout which provides an excellent view of the gannets' mainland foothold. Whether easier public access will bother the birds remains to be seen. However the ARC has ensured no trespassers venture onto the nesting area by erecting a high wire fence across the end of the outcrop.

From the lookout, it's clear the gannets are very territorial birds. Each nest – made of seaweed and grass cemented by guano – is placed a regimented distance from the next; in fact the pecking reach of an adult gannet. The birds are well-known for their elaborate courtship neckdances which precede mating, and each pair's single egg per season – a pale blue or greenish white colour – is laid around October. After incubation by both parents, hatching occurs within six to seven weeks, with one of nature's ugliest-looking chicks emerging. These demanding balls of down keep the adult gannets on constant food forays as they slowly grow to a juvenile stage of development and begin learning to fend for themselves. At this point they more resemble a mottled grey goose with an outsized beak than the sleek white adults with their custard-yellow heads that wheel on the cliff-top air currents above them. The grey juveniles stay around the colony until the big migration every February/March, when they brave the Tasman weather demons to reach the Australian coastline. There they stay for at least the next two years, maturing into the familiar white torpedoes, before being drawn like magnets back to their birthplace above the surfers at Muriwai.

This colony has the distinction of being one of three mainland colonies in New Zealand, although gannets breed at many offshore locations around the country. The other sites



*A demanding ball of down – a gannet chick. Photo: Rob Greenaway*

are at Cape Kidnappers, east of Napier in Hawke's Bay and Farewell Spit.

The Muriwai colony is easily reached by a 45-minute drive through farmland west of central Auckland. The birds are most in evidence during the breeding season but scarce outside that time. It is recommended you take warm clothing in case the rough coastal conditions accommodate the gannets more than people. 🦅



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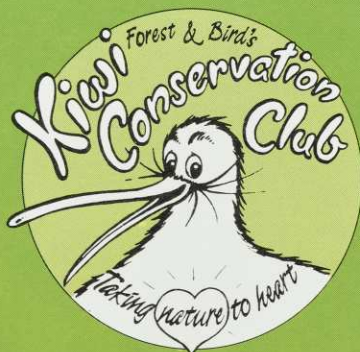
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The Society has awarded \$10,000 to applicants for the Fleming Conservation Scholarship.

Formerly the Queen Elizabeth II Scholarship, and renamed in honour of Sir Charles Fleming, \$7,000 of the awards were made for research into conservation work relevant to the objects of the Society. A further \$3,000 from the Reader Award was awarded for research into endangered birds.

The following people received awards:

Sean Weaver, to identify alternative means of development for Fiji's forests other than forest clearance and to produce a land classification system. (Canterbury University).

Kerry Sanders, to investigate survival, dispersal and habitat requirements of the kakerori or Rarotongan fly-catcher (Massey).

Yvonne Mariot, to research the vegetation and soils of Wilton's Bush, Wellington (Victoria).

Jenny Grimmett, to investigate disposal of gold mining wastes and other wastes such as sewage (Otago).

Shirley McQueen, to investigate the role of hormones in the foraging of crested penguins (Otago).

Jason Roxburgh, to investigate the spread of the weeds elderberry and Himalaya honeysuckle in forest remnants. (Canterbury).

Alan Cooper, to determine evolutionary relationships of ratite birds, such as the kiwi and extinct moa, using DNA material (Victoria).

Jane Williams, to study the genetics, habitat and behaviour of blue duck in Otago (Otago).

Peter McIntosh, to investigate the habitat use and mortality patterns of brown teal, or pateke, in Northland and the consequences for future management (Auckland).

Hamish Owen, to study possum impacts on mistletoe in South Westland (Canterbury).

Kerri-Anne Edge, to investigate the effects of brown trout on native fish (Otago).

Brent Evans, to investigate native fish distribution in relation to woody debris in streams (Otago).

Michael Scarsbrook, to consider the potential importance of tussock leaves to the stream communities in Central Otago (Otago).

Cathy Shave, to examine predator-prey interactions among koura, trout and eel (Otago).

Philip Lester, to consider the effects of willows on native freshwater invertebrate communities (Otago).

Andrea Bryon, to study the effects of introduced mammals on lowland forest birds and to determine how best to control them (Otago).

Mary Richards, to investigate the genetics of NZ weta (Victoria).

Mike Thorsen, for an ecological survey of the gecko (*Hoplodactylus maculatus*) in the Wellington region (Victoria).

Aaron Patrick, to study the history of the use of Lakes Manapouri and Te Anau for power production, with particular reference to the Save Manapouri campaign (Otago).

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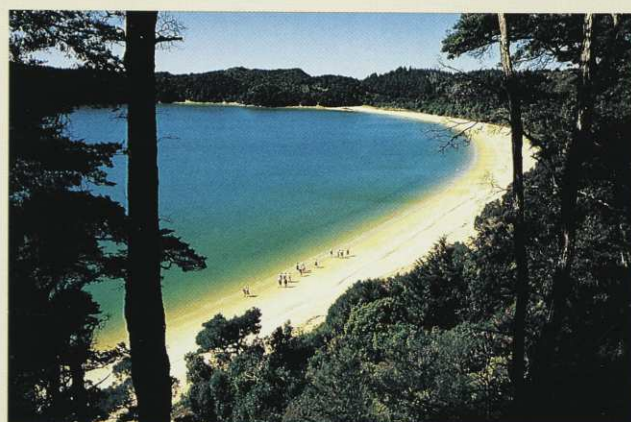
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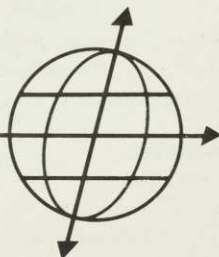
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# VENTURETREKS

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**The End of Nature**, by Bill McKibben (\$46.95, Viking). McKibben's pessimistic thesis is that human ability to change nature - whether the climate or genes - has brought an end to nature as we have always known it. Despite his doom laden message, the author's compelling and brilliant prose urges one into action. "Restraint - not genetic engineering or planetary management - is the real challenge, the hard thing. Of course we can splice genes. But can we not splice genes?"

**Unsettled Outlook - New Zealand in a Greenhouse World**, by Tom Clarkson, Blair Fitzharris and Matt McGlone (\$19.95, GP Books).

Armed with this and the above, no-one can be excused for not knowing exactly what climate warming is about. Written for the layperson by a plant scientist, atmospheric physicist and climatologist, *Unsettled Outlook* points out that, although the forecast for agriculture may be rosier in a greenhouse world, the same cannot be said for natural ecosystems. The authors' conclusion is that we should act now to avert climate warming, and "decide that environmental goals - clean air, unpolluted waters, protected natural landscapes, sustainable use of the country - should rank equally alongside economic, material goals."

**A Flying Start**, compiled and edited by B.J. Gill and B.D. Heather (\$29.95, Random Century in association with the Ornithological Society of New Zealand).

Commemorating 50 years of OSNZ, this 218-page book consists of sections on the history of the society, reminiscences by notable members, a miscellaneous section on different aspects of birds, and finally biographies of deceased leading lights in OSNZ. Anyone interested in OSNZ's work and the personalities involved over the years will find this a worthwhile reference.

**Save the Dolphins**, by Michael Donoghue and Annie Wheeler (\$39.95, David Bateman).

It says much for the high calibre of Department of Conservation staff that this book, destined for an international audience, has been written by two within DoC. Included are chapters on the most threatened species, dolphin biology and behaviour, and human/dolphin interaction. The authors also expose the shameful treatment doled out to dolphins by humans. To lift the spirits the final section highlights recent actions taken to save dolphins.

**The Hoiho: New Zealand's Yellow-eyed Penguin**, by

Adele Vernon, photographs by Dean Schneider (\$24.95, Hodder & Stoughton).

*Forest & Bird* readers will be well acquainted with Dean Schneider's moving photos of the yellow-eyed penguin, which have done so much to draw attention to the plight of this dwindling species. This small (44-page) book is a good introduction to the penguin, both for older children and adults. Adele Vernon's vivid descriptions of the penguin's behaviour are testimony to many hours of close observation.

**The Incredible Kiwi** by Neville Peat (\$39.95 hard cover; \$29.95 soft cover, a *Wild South Book Published by Random Century in Association with TVNZ*).

Until recently there was little published, outside the scientific literature, on our most famous and extraordinary native bird. Now three books on kiwi have either appeared or are about to appear. The three fill quite distinct niches. Raymond Harris Ching's *Kiwis* is a monograph with his painting supported by authoritative accounts of the biology and conservation of the kiwi. *The Incredible Kiwi* takes the popular middle ground, and my own *Kiwi - A Secret Life*, written for the Natural Heritage Foundation, is designed primarily as an educational book. In writing this review, I recognize the risk of my bias as an author and contributor to the other two books.

The coverage in *The Incredible Kiwi* is comprehensive. There are chapters on the distinctions between the three species, their

biology and current research. There are accounts of kiwi in captivity (including a list of "kiwi houses"), of Maori traditions about kiwi, and of contacts with humans in general (mostly bad experiences for the kiwi) and of conservation measures. The book begins with a chapter, which seems misplaced, on the history and commercial use of the kiwi as a national emblem.

The book is well written and superbly illustrated. It probably contains the best collection of photos of kiwi anywhere.

Unfortunately it shows obvious signs of being rushed into print with a number of content and typographical errors. Some of these are serious enough to mislead the reader in the status, distribution and relationship of the kiwi.

In the distribution map of the three species of kiwi, little spotted kiwi are incorrectly recorded on Little Barrier Island. Brown kiwi are either incorrectly placed or omitted from several places in South Westland and Fiordland. Great spotted kiwi are present at least 100 km further south than is shown - at least to the Karangarua River. Some of these errors are repeated in the text, but there are also contradictions with the map.

The status of brown kiwi is given as "fairly common in certain regions" which is correct, but it is also considered to be a "Threatened Species". Similarly the great spotted kiwi is described as "fairly common" but its apparent decline in South Westland is not mentioned. There is contradiction in the discussion of the relationships of kiwi. If kiwi are so different from other birds as to be placed in their own Order, as is stated, (not the prevalent scientific view), then the discussion of their ratite relatives, emus and ostriches etc is confusing without explanation.

The author also incorrectly states that Maori no longer make kiwi cloaks. In fact this longstanding but now restricted art continues (using feathers from dead kiwis).

These errors aside, there is much valuable information in the book, an insight into the oddities of the kiwi and the difficulties of finding out about them, all presented in a very readable form.

TVNZ's film of the kiwi, which *The Incredible Kiwi* was designed to accompany, appears to be having a long and difficult incubation, but when completed will, with the three books, provide a good range of sources that can only draw much needed attention to the plight of the kiwi.

**Reviewed by Jim Jolly** (kiwi scientist)

## Childrens' Titles

**The Legend of the Kea**, by Philip Temple; illustrated by Chris Gaskin (\$9.95, Hodder & Stoughton).

A reprint of the original hard cover edition, this beautifully illustrated book tells in mythical terms how New Zealand's birds came to live and behave the way they do. Kritka the kea is the rascally hero of the story. 4 to 10-year-olds.

**One Lonely Kakapo**, by Sandra Morris (\$9.95, Hodder & Stoughton).

Delightful verse ("One lonely kakapo dancing to the moon, Two shy bitterns booming out a tune") accompanied by imaginative illustrations in this counting book for 1 to 4-year-olds.

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## SOCIETY'S LODGES AND HOUSES

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

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

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

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

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

### Turner Cottage, Stewart Island

Turner Cottage, is on Stewart Island and is a three-roomed dwelling with sleeping arrangements for six people. For details write, enclosing a stamped, addressed envelope, to: "Turner Cottage", C/- Mrs M. Tait, P.O. Box 48, Stewart Island, Telephone (021) 391-396.

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

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

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

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

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

### Tautuku Lodge

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

Information and rates on application to the caretaker: Miss M. Roy, Papatowai, Owaka, R.D.2. Phone (03) 415-8024. Stamped addressed envelope with inquiries please.

### Tai Haruru Lodge, Piha, West Auckland

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

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

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

Different rates apply for winter and summer, for rates send a stamped, addressed envelope to the Booking Officer, Mrs B. Marshall, 160 Valley Road, Henderson, Auckland. Telephone 838-5859.

### Waiheke Island Cottage, Onetangi, Waiheke Island

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

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

### Bushy Park Lodge

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

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

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

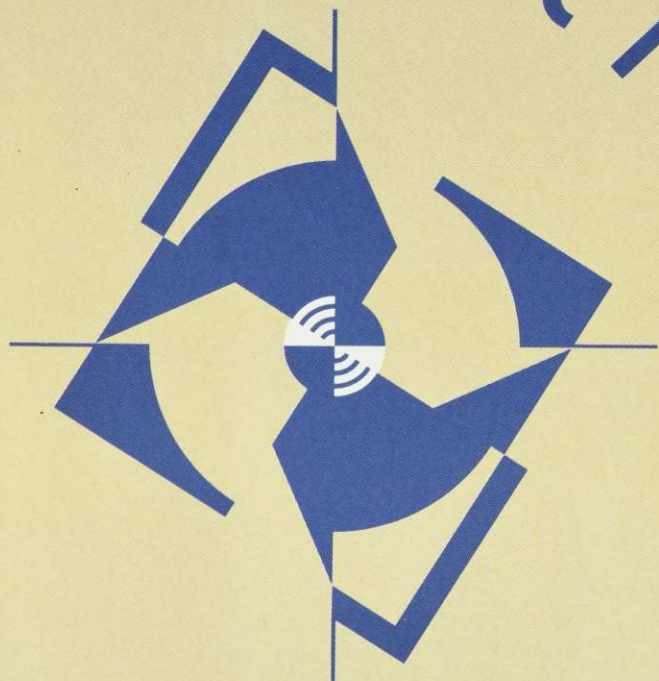
Reduced adult rates Sunday to Thursday nights except long weekends and school holidays (GST included). Open 7 days a week.

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

Bookings and Information leaflets: Manager, Bushy Park Lodge, Kai Iwi, RD8 Wanganui. Telephone Kai Iwi 879. STD (06) 3429-879.



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# Heritage Easter

March 29-  
April 1, 1991

*... Two events you should not miss! Forest and Bird's traditional Easter Gatherings featuring guided field trips to outstanding natural areas, informative and lively debate on current conservation issues and fun socials. Suitable for everyone from ardent activists to family groups.*



## Kauri Forest National Park

Go north for Easter to the subtropical kauri forests where Forest and Bird is campaigning for a Kauri National Park. Your stay will be in the Waipoua Forest camp, right alongside the greatest kauri forest of all. Features of the weekend include:

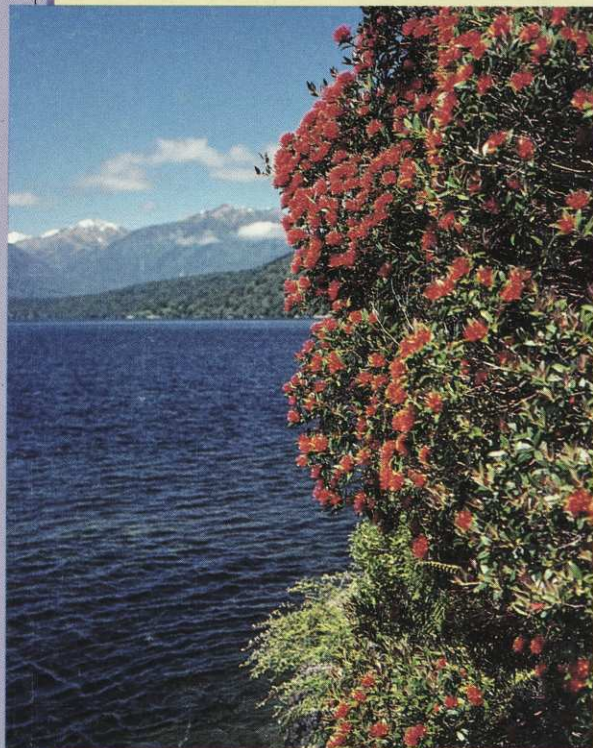
- Forest walks led by forest ecologists and wildlife experts.
- A chance to hear the rare kokako in Waipoua Forest.
- Visits to kauri museums.
- An opportunity to learn about the Maori history of the north.

## South-West New Zealand World Heritage Celebration

You've done the hard work - now the South-west NZ World Heritage site is a reality. Come south at Easter and help us celebrate at Franz Josef and Okarito in Westland National Park.

- Walk through the forests you've worked so hard to protect.
- Discover forest, wetland and coastal wildlife.
- Enjoy the spectacular mountain scenery.
- Join with the locals in our Easter Sunday festival at Okarito - beachside bonfire and barbecue, activities, lagoon excursions.

We also promise you stimulating discussion with leading politicians and conservationists on issues of the day.



Yes, please send me a registration form for the Forest and Bird Easter Gathering. The Gathering I have chosen is:  
Sth-West NZ World Heritage ☐      Waipoua Kauri ☐

Name .....

Address .....

Please send a stamped self addressed envelope to Heritage Easter, PO Box 631, Wellington, and we will send you a registration form with full details.