



## RECENT EVENTS



# Kahurangi National Park

The establishment of a new national park was announced on April 2 by the Minister of Conservation, Denis Marshall.

Kahurangi National Park, in the north-west of the South Island, becomes New Zealand's 13th national park and the second largest behind Fiordland National Park. The park will dwarf in size its two neighbours, the Abel Tasman National Park and the Nelson Lakes National Park.

It will probably take 12 months before

all the boundaries of the park can be surveyed. Once this is done, the Minister is then in a position to recommend to the Governor-General that she gazettes the area, by Order-In-Council, to be a national park.

Mr Marshall, who was camping out in the park overnight, said it was an honour to announce such a grand and positive step towards the preservation of New Zealand's natural treasures.

"Kahurangi National Park has been made possible by three years of intensive community consultation by the New Zealand Conservation Authority and by myself. Talking with the communities, iwi Maori and others revealed a huge body of support for creating national park protection in this very special corner of New Zealand," the Minister said.

Within the new national park's boundaries are a huge range and variety of landforms, plants and animals, many of them rare and endangered, and some of them found nowhere else in New Zealand.

These include more than half of New Zealand's 2270 plant species, of which 67 are found only in this region and 19 are nationally threatened. It also includes threatened native bird species such as the great spotted kiwi, blue duck, falcon and rock wren.

Perhaps the most spectacular of the many geological features are the karst landscapes contained in the park. These are formed because of the presence of highly soluble underlying rocks which dissolve in natural waters, creating sink-holes, underwater caves and fluted patterns on the surface.

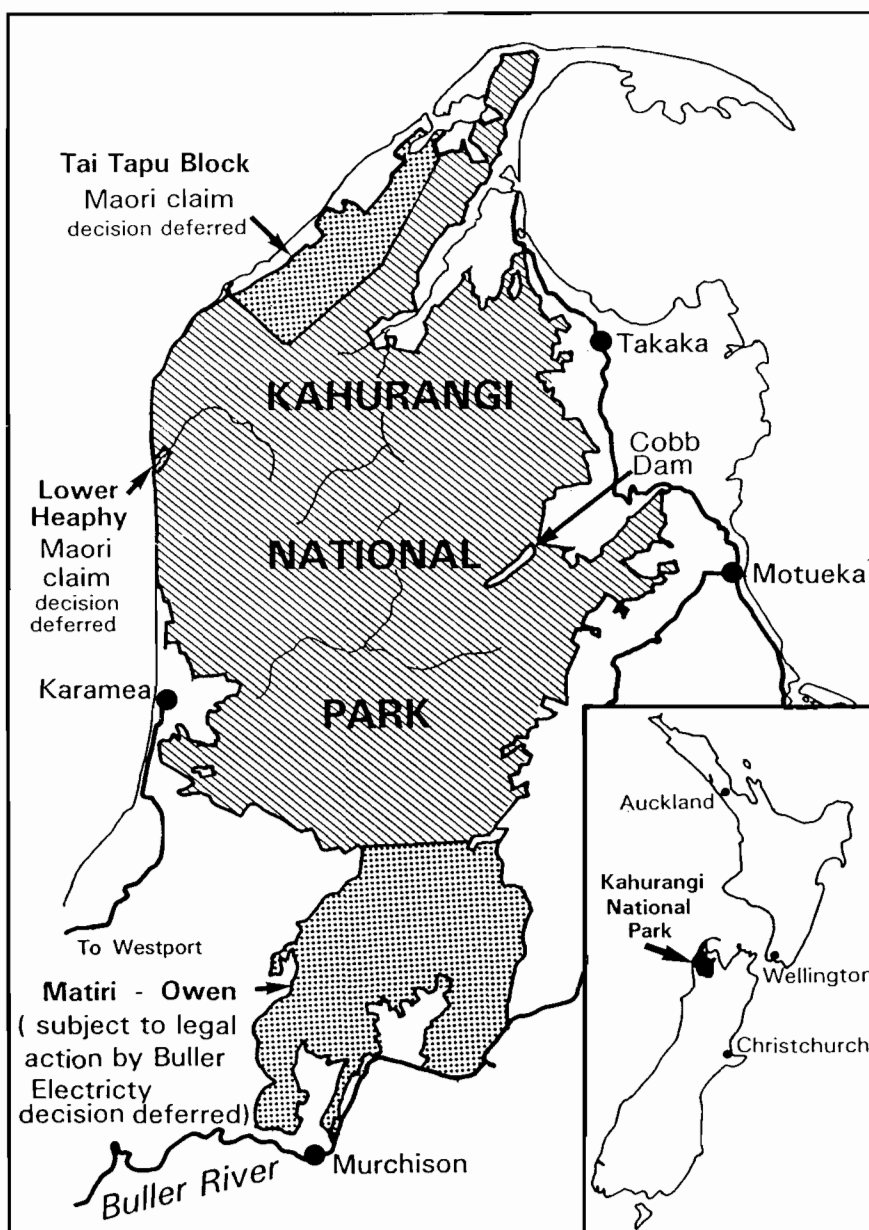
### Cave Systems

The marble massifs of Mt Arthur and Mt Owen are of special significance. They are among the few glaciated karst landscapes in the Southern Hemisphere with their spectacular fluted marble formations and world-class cave systems including the deepest cave in New Zealand (Nettlebed, 889 metres) and the longest cave system (Bulmer, at least 36 kilometres long).

Mr Marshall said the new park also offered a wide and renowned range of recreation opportunities, such as the Heaphy and Wangapeka tracks, rafting and kayaking on the Karamea River and caving.

Whaia e Koe  
Te iti Kahurangi  
Me te tuoho koe  
He maunga teitei

In the pursuit of life's treasures  
Bow only to the tallest mountain.



# Ministry releases forestry investment information

New information pinpointing forestry investment opportunities with detail for each New Zealand region has been released by the Ministry of Forestry.

The Regional Studies series, published in response to requests from industry and the public, provides forestry planners and potential investors with information on regional forestry issues and opportunities. Ten publications cover Northland, Auckland, Central North Island, East Coast, Hawkes Bay, Southern North Island, Nelson and Marlborough, Canterbury, West Coast and Otago and Southland.

"With increasing interest in this rapidly expanding industry, these are welcome and timely publications," Chief Executive of the Ministry of Forestry, Dr John Valentine, said.

"Forestry planning and investment require practical advice, not only on the present state of the industry but on future trends and potential risks. Each of these publications provides up-to-date, compre-

hensive information," said Dr Valentine.

The studies give a detailed picture of the forest industry in each region and the potential for future forestry development. They examine planted production forestry and timber-processing opportunities and assess the financial risks.

Information regarding existing industry, infrastructure and predicted regional employment levels is also provided.

"With our forest harvest predicted to double by the year 2015, local authorities and forestry planners will find the Regional Studies invaluable in developing strategies to cope with the expanding forest sector in terms of regional transport systems, port development and labour requirements," said Dr Valentine.

Each study includes an analysis of the Resource Management Act and the impact it will have on local authority planning and consent procedures. The status of Regional Policy Statements and Plans and forestry provisions in local transi-

tional District Plans are also given, along with a useful directory of national and regional forest industry organisations.

Copies of Regional Studies are available from the Ministry of Forestry at \$20 per copy or \$160 per set of 10, including GST.

## East Coast Forestry Project gaining ground

Now coming up to its second planting season, the East Coast Forestry Project is gaining momentum, according to the Minister of Forestry, John Falloon.

Last year 3036 hectares were established, and 5700 hectares are scheduled to be planted this winter. Each tender round works three seasons ahead, and a total of 12,000 hectares are now committed under the scheme, spread over 1993-1996. New-

(Continued on page 9)

## REGIONAL STUDIES



Comprehensive and authoritative up-to-date information on regional forestry issues and opportunities

**A must for investors, planners, forest owners and servicing industries**

- Potential for investment
- Industry trends
- Existing industry and infrastructure
- Forecasts of wood supply & demand
- The impact of the Resource Management Act

**NORTHLAND AUCKLAND EAST COAST HAWKE'S BAY  
CENTRAL NORTH ISLAND SOUTHERN NORTH ISLAND  
NELSON & MARLBOROUGH WEST COAST  
CANTERBURY OTAGO & SOUTHLAND**

*Regional Studies are available from  
Ministry of Forestry offices*

### Northland

PO Box 226, Whangarei  
Tel: 0-9-430 3010  
Fax: 0-9-438 7667

### Auckland

CPO Box 39, Auckland  
Tel: 0-9-303 3269  
Fax: 0-9-303 2558

### Rotorua

PO Box 1340, Rotorua  
Tel: 0-7-348 0089  
Fax: 0-7-347 7173

### Southern North Island

PO Box 31360, Lower Hutt  
Tel: 0-4-570 6000  
Fax: 0-4-570-6003

### Nelson

PO Box 3318, Richmond  
Tel: 0-3-544 8350  
Fax: 0-3-544 6826

### Christchurch

PO Box 25022, Christchurch  
Tel: 0-3-379 1040  
Fax: 0-3-365 4519

### Dunedin

PO Box 5648, Dunedin  
Tel: 0-3-477 8454  
Fax: 0-3-477 9144

## Forestry exports reach \$2.5b with more value added

New Zealand exported \$2.5 billion worth of forest products in 1993, 30% more than the previous year, the Minister of Forestry, John Falloon, announced recently.

The growth in value added products was a major factor behind this increase.

Export earnings in 1990 were \$1.5 billion and have risen to \$2.5 billion in just three years.

"It's important to recognise that this growth has only occurred because of long-term investment in growing and managing a sustainable planted forest resource," the Minister said.

"That foresight is now beginning to show very positive returns, which will continue to expand in the long term.

"Our wood supply is expected to double by 2010 and will continue to rise as we increase planting levels. With domestic consumption not expected to rise significantly there will be large and growing exports," he said.

In the last two years more than \$370 million was invested in new wood processing facilities, leading to an increase in on-shore processing.

The value of sawn timber exports rose 47% to \$501 million in 1993 (thanks partly to new opportunities in the US), following on from a 32% increase in 1992. Panel products rose 21% to \$289 million, paper and paperboard increased 17% to \$133 million, and wooden furniture exports rose 10% to \$40 million.

# Registration of forestry rights cleared up

The uncertainty surrounding the registration of forestry rights under the Land Settlement Promotion and Land Acquisition Act can now be put to rest, the Minister of Forestry, John Falloon, said.

"The Government will introduce legislation that will validate all past forestry rights and exempt all future ones from the Land Settlement Promotion and Acquisition Land Act."

Forestry rights are a specific property right that streamlines the bureaucratic processes of establishing a forest.

However, last year the Registrar General of Lands decided that forestry rights could not be transferred or created without the approval of the Land Valuation Tribunal.

"This was clearly against the spirit of the rights, which is to remove bureaucratic obstacles to forestry," said Mr Falloon.

He said regulations due to come into force from April 15 would ensure that grantees with forestry rights would not have to seek Land Valuation Tribunal approval prior to them registering their right with their local District Land Registrars.

"Legislation to validate all past forestry rights from the Land Settlement Promotion and Land Acquisition Act will be introduced into the House by way of a supplementary order paper to the Law Reform Miscellaneous Provisions Bill in

the next parliamentary session commencing May 24," the Minister said.

"I am pleased that both Labour and the Alliance have agreed to support the introduction of the legislation.

"This legislation will cover forestry rights entered into prior to April 15.

"The past couple of months have been a very anxious waiting period for forestry

investors, but I am pleased that the Government has been able to clear up this matter," said Mr Falloon.

"The recent surge in forest planting is a sign of the growing confidence in the forestry industry. The removal of such bureaucratic impediments will help ensure that this momentum is maintained," said the Minister.

## Forestry Corporation sale in limbo

Mike Smith

More than a year and many submissions down the track, and arbitrator Colin Carruthers QC has still not resolved the dispute between Fletcher Challenge and the Crown holding up the sale of Forestry Corporation – a sale anxiously awaited by the Government and investors.

The Corporation administers Crown-owned plantation forests in the Bay of Plenty, including the Kaingaroa Forest. The value of the forests in the balance sheet as at March 31, 1993 was put at \$2.1 billion. This figure is probably conservative. The true figure may be closer to \$3 billion. The Corporation's assets were withheld from sale when a dispute over the long-term "Tasman Contracts" with Fletcher Challenge Ltd went to arbitration.

Mr Carruthers still can't say when he will deliver his findings to the parties. "I'm still working on it," he said, noting he was not working to a timetable.

Sources warn against expecting a one-off "cure-all" decision, given the complex issues involved. "I would expect negotiations to continue following the arbitrator's decision," said a source. Mr Carruthers could, for instance, deliver a decision on the property rights involved in the forest resource allocated to the Tasman contracts, effectively fencing them in and allowing the Government to make a decision on the sale of cutting rights to the unallocated forest resource.

It now seems likely the Government will try to find a buyer from within the sector for the unallocated resource. Such a sale could be "sold" politically on the basis that it would help generate the large-scale investment in solid wood processing required to fully utilise the resource.

A large-scale sale the size of cutting

rights in FCNZ would help Government cut debt and produce a surplus in this year's Budget, an attractive proposition in the lead up to the first general election under MMP. – *Reprinted from The Independent.*

## Enough seedlings, but experienced labour in short supply

Forest Nursery Growers' Association Secretary/Treasurer Warwick Brown says that nationwide the 140 million seedlings sold forward for the planting season translates into 140,000 hectares at 1000 per hectare. So allowing for replanting and slippage, enough seedlings will be available to plant 120,000 hectares.

But he is most concerned that the many small companies involved will be competing for a finite labour resource. An average planting rate of 1000 stems per day is equivalent to 120,000 man-days, or making an assumption that six-day weeks are the norm, 1518.98 men for 79 days.

New planting objectives this season are therefore at risk. Anyone who has not booked reliable labour early to do their planting may miss out and his members would be left with bare-rooted seedlings in store. "The use of unskilled labour shows up in two years," he said.

"Only about five per cent of seedlings are containerised, most of them eucalypt," he said, "so the season cannot be significantly spread out." – *Reprinted from Radiata Bulletin.*

## East Coast Forestry Project (Continued)

comers in this year's and future tender rounds will boost this area.

The 1994 tender round closed on April 30.

"The annual target is 7000 hectares of planting per year and this is likely to be achieved from 1995 onwards," said Mr Falloon.

"The project has a target of 200,000 hectares over 28 years – based on the 195,000 hectares on the East Coast recognised as needing soil conservation works.

"A major challenge in developing this project is to target severely eroded land, and steering the tenders towards developing these areas is a priority."

Of last year's tender round, about 36 per cent of the total area to be planted is severely eroded hill country, Mr Falloon said, with most of the rest either eroding or at risk of eroding.

# Forestry Insights gets a flying start

Teachers on the West Coast were in for a surprise when they attended the launch of the Forestry Insights "The Environment". Their kits arrived by logging helicopter.

Seventy teachers attended a lunch-time workshop held in Saltwater Forest, south of Hokitika. A marquee was set up by the hosts, Timberlands West Coast, and a barbecue lunch was cooked on site. A logging helicopter then flew in to a nearby landing site, bringing the kits for the teachers to collect.

Rietta Lethbridge, Allison Gailey and Sandra Cubitt, Forestry Insights writers, conducted the workshop and confessed it was difficult to compete with such excitement. However, the teachers were very enthusiastic about The Environment kits and, as most had already used the previous sets The Forest and Processes, they were appreciative of the quality of the materials.

The West Coast launch was one of 19 held throughout the country during March. The number of schools attending the launches was generally up on previous years, especially in the Auckland area where nearly 50% of schools were represented.

The regional launches are the culmination of 10 months of hard work. The Environment was an especially challenging theme as balance had to be maintained



West Coast teachers just couldn't wait to open "The Environment" kits.

in the materials. To assist with this, Dave Field, Department of Conservation, and

Marguerite Fahy, Ministry for the Environment, were appointed to the Advisory Committee. Representatives from Greenpeace, Maruia Society and The Royal Forest and Bird Protection Society were also invited to talk to the writers and to be part of the Advisory Committee discussions on the topics the writers covered.

The three kits at primary school level contain materials that are cross curricular and activity based. Materials at secondary level, however, are subject based and for The Environment covered English, Science, Economics, Geography, History and Social Studies.

Each kit also contains a poster:

- Forest Footprints – a board game for Juniors on a safe visit to the forest.
- Look for the positive – identifying positive environmental practices.
- Which tree where? – how to identify native trees and where they come from.
- Forest pests – major pests in natural and plantation forests.
- Te wairua o nga rakau – the spiritual value of trees.

Work has now started on the fourth theme of the project, "People". This theme will look at improving the image of people working in forestry, safety, forestry



Allison Gailey, writer (standing), helps teachers work through the new materials.

communities and families, the varied careers in forestry, decision making, teamwork, forestry sports and recreation.



"The Environment" kits released to schools in March.

Forestry Insights is a joint project by the Ministry of Forestry and the Forest Industry Training and Education Council. The project is totally funded by those within or associated with the forest industry. Sponsorship is still needed for the People theme and if you can help, please contact Gendie Somerville-Ryan, Project Manager, Forestry Insights, CPO Box 39, Auckland. Ph (09) 358 2993, Fax (09) 303 2558.

## Survey confirms Insights well used

A recent survey commissioned by the Forest Industries Council shows 94% of all primary teachers and 82% of all secondary teachers know of the Forestry Insights project – and 88% want more Forestry Insights materials.

The survey, by Forsyte Research, was undertaken to find out to what extent the first two sets of materials, *The Forest* and *Processes*, are used in schools, the time for which they are used and how well the teachers rate the materials.

At least two-thirds of all primary and secondary teachers aware of the resources used at least one of the kits during 1993. The use rate was highest amongst standards classes in primary schools where at least 68% of teachers have used one kit. Primary teachers tend to spend a longer period of time using the kits (46% spend two weeks to a month) than secondary teachers who spend less than two weeks at a time on the materials.

## News from the School of Forestry

Graham Whyte will be spending five weeks in Japan later this year as a Japan Society for the Promotion of Science (JSPS) Fellow, an award he previously held in 1984. He will be presenting papers at two conferences in Japan, as well as touring the country to give a series of lectures on the New Zealand forest sector. He will be catching up with some Canterbury graduates in Japan – Dr Steve Johnson at ITTO in Yokohama, Warwick Schaffer, a Masters student at Tokyo University researching the final products and destinations of selected radiata pine logs exported from New Zealand to Japan, and a husband and wife team, Stuart and Kristen Nash, who have been recruited by a Japanese forest owner and entrepreneur to become familiar with Japanese culture of cypress plantations with a view to establishing a new cypress resource in New Zealand, grown using the same principles as in Japan.

There is an even higher level of interest than usual among Japanese at the moment in New Zealand forestry and Warwick has arranged for a series of articles about forestry in this country to be written in English for a prestigious Japanese journal, then translated into Japanese. Graham extends an invitation to anyone in the forest industry interested in taking advantage of his Japanese contacts and pending visit to Japan to make contact and discuss what might be achieved in the way of assistance to industry.

Dr Lindsay Fung, a recent Ph.D. grad-

uate from NZ School of Forestry, has accepted a post-doctoral fellowship at the Beijing Forestry University in China. There he will research species and clonal selection in poplars, with particular emphasis on clones which can tolerate salinity. Dr Fung's research expertise lies in species selection and climate matching. His post-doctoral funding will come from Germany and Israel and he will also receive funding from Fletcher Challenge in New Zealand, for whom he will develop research contracts in central and southern China.

Tasman Forestry Ltd, Carter Holt Harvey Ltd, the New Zealand Forestry Corporation, and the New Zealand Forest Research Institute are jointly funding the development of decision-support systems for plantation establishment at the School. Dr Euan Mason, Lecturer in Silviculture, and Hari Koesmarno, Ph.D. candidate, are developing models of the establishment phase, and combining these with knowledge-based software (sometimes labelled "expert systems"). The systems will enable managers to swiftly select establishment practices which are cost-effective for specific sites.

Dr Ted Bilek spent the coldest summer of his life last December through February. He was at the College of Forestry at the University of Wisconsin, Madison. There he worked on developing a model to evaluate the economics of various wood combustion facilities. The model calculates the break-even price for the energy produced on both a before- and after-tax basis. It is follow-up work to a project funded by the USDA Forest Service Forest Products Laboratory which he began while on sabbatical in 1992-93.

Mr Zhao Wei-Zhong from Shanxi Agricultural University in Taigu, northern China, and Mr Shu Qinlong from Anhui Agricultural University in central China, are two Visiting Scholars spending a year carrying out research with School of Forestry and FRI staff. Mr Shu is working on *Armillaria* root rot, while Mr Zhao is working on growth modelling of young radiata pine.

Student numbers at the School continue to increase. The total number of B.For.Sci. undergraduates for 1994 is 201, while postgraduate numbers have increased to 52. The popularity of forestry is perhaps best shown by the 254 enrolments for the "Forests and Societies" paper which is open to all University of Canterbury students. With B.E. (Forestry) students also taking some papers, the School of Forestry is a very busy place indeed.

Gendie Somerville-Ryan

John Allen



# The Waitutu issue

Waitutu is a 2400 hectare portion of the remote forested country which rises in a series of terraces from the rugged southern coast of the South Island west of Te Wai Wai Bay. It is a relatively narrow belt of land, located between the coast and the terrace forests extending to the north and west. Waitutu is owned by the Maori Waitutu Incorporation granted to them in 1910 as part of land exchange settlements made under the South Island Landless Natives Act 1906.

The surrounding land was previously Waitutu State Forest, administered by the former New Zealand Forest Service and now administered by the Department of Conservation.

The forests of the terraces, including those in Waitutu, comprise dense podocarp and podocarp/hardwood associations and have remained largely unmodified thanks to its remoteness and lack of roading to the area. Some logging was carried out in past years in the east of the area with timber hauled to the Port Craig Timber Company in the west of Te Wai Wai bay by tramway.

With increasing public interest in the conservation and landscape values of the forests and of this south coast, attention has focused on Waitutu. The adjacent Crown-controlled land, now managed for conservation, has helped focus that attention.

The Waitutu Incorporation has attempted for some years to seek an income from its land, an opportunity denied them by the inaccessibility of the

block, which has previously made any timber extraction uneconomic. However, along with the increasing values for conservation, there has been an improving opportunity for timber income.

The controversy is not new. In the early 1980s the Incorporation attempted to commence a harvesting operation in contract with Feltex Industries Ltd. Public pressure for conservation of Waitutu at the time resulted in Feltex withdrawing from the contract. Some four years ago an attempt was made by the Crown and the Waitutu Incorporation to negotiate for the protection of Waitutu from logging but this also failed.

Towards the end of 1993 Paynter Timber Ltd, a Christchurch-based timber processing company, entered into a contract with the Waitutu Incorporation to harvest timber from their land. The news generated much public response including further calls for protection of Waitutu. When it was apparent that harvesting operations may have been about to commence before Christmas the Government hastily met with representatives of the Incorporation and Paynter and, in return for a delay on logging, agreed to explore a means of compensation for the protection of Waitutu.

Finding a solution in this case will not be easy. There is a clear indication of a commercial proposition; although, as an added dimension, the company and Incorporation have expressed an interest in cutting rights to beech forests in the Tuatapere area in exchange for cutting



A large rimu (*Dacrydium cupressinum*), Waitutu. The vegetation associations range from coastal scrub, through podocarp/hardwoods to silver and mountain beech (*Nothofagus*).

podocarp timber in Waitutu. However, solutions along this path will likewise not be easy.

The Government has been considering its options for Waitutu and has appointed a special negotiator to work directly with the Incorporation and the company. The negotiations will focus on a possible equitable means of achieving protection. Whatever the outcome of this round the stakes on Waitutu continue to rise. There is a strong intent on the part of the Incorporation that they gain something worthwhile from the deal, while public expectations are also high that permanent protection for Waitutu forest may be achieved.

Alan Reid



A view of the Waitutu coastline from the south.

## Russian situation worries Japan

The Japan Russian Wood Cooperatives Federation met recently with representative companies of the Russian Wood chapter of the Japan Wood Importers' Association to discuss the future of the Russian market and log supply in particular.

Despite the fact that 1993 was a boom year for Japanese imports from Russia – the total volume of 4,500,000 m<sup>3</sup> represented an annual increase over 1992 of more than 20% – comments by trading

companies in particular suggest that buying from Russia will be cautiously restrained. One concern relates to the prevailing level of continuing economic chaos – monthly inflation running at 30%, for example – and the impact that will have on stable supply.

### Other Concerns

Other concerns are Russian sellers' requirements for prepayment on shipments and the presence of insect-diseased stock within individual shipments. This latter problem is expected to become more serious in the second quarter and the Japanese side is planning to strengthen surveillance procedures. Russian sellers insist on prepayment because they lack the hard cash necessary to ensure that logs are transported from the harvest site to railhead. Export prices are expected to rise and have an impact on import volumes into Japan; some increase in lumber imports is expected, but the overall volume trend will be downwards. One bright spot is the prospect for larch in plywood manufacture. Some say demand could double this year. – **reprinted from JapanLink, Ministry of Forestry.**

## New South Island Manager for NZFRI

Dr Bruce Manley has been appointed South Island Manager for the New Zealand Forest Research Institute. He takes over the position from Mr Bill Dyck, who has joined Carter Holt Harvey as Manager, Technology Development. Dr Manley will retain his current position as Manager of the Resource Evaluation and Planning group based in Rotorua, while also providing leadership to NZFRI's South Island contingent.

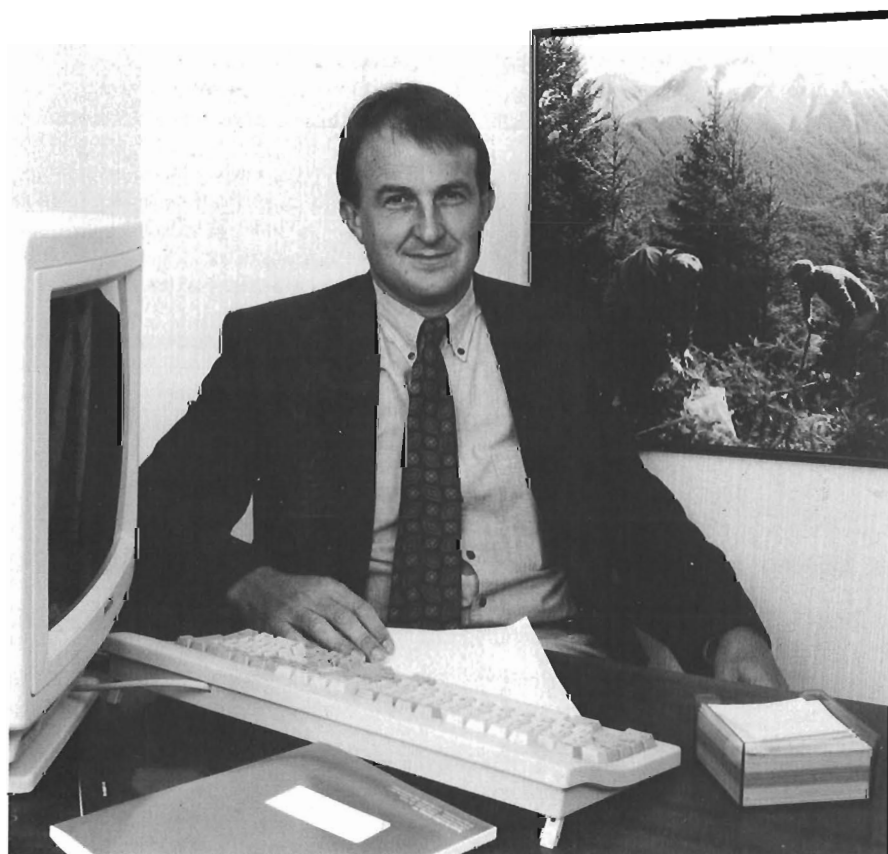
Dr Manley has widely recognised expertise in forest valuation and the development of forest estate models. He has been responsible for championing the development of FOLPI, a computer-based modelling system extensively used by the major forestry companies in New Zealand and by NZFRI staff for plantation management consultancies both in New Zealand and overseas. FOLPI is a tool for determining the most profitable way of managing a forest to meet log supply commitments and to sustain yield over time.

The NZFRI has historically maintained a vigorous research team in the South Island, based in Christchurch and at Rangiora. Valuable expertise in many aspects of plantation and natural forestry research has been built up over the years, with skills currently representing high-country forestry, nursery, plantation silviculture, agroforestry, special purpose species, harvesting, and climate change research. NZFRI plans to expand its research capabilities in the South Island, particularly through cooperative research projects and joint appointments with the Universities, and through its continued association with the School of Forestry.

The South Island occupies a position of strategic importance to the future of forestry in New Zealand. Ministry of Forestry sources estimate that approximately one-quarter of the total forestry planting for 1993 took place in the South Island. Their surveys also indicate that this trend is likely to increase in the longer term, with almost five million hectares of South Island land potentially available for new forestry planting.

With its research and development expertise in all areas of forestry and wood processing and product development, NZFRI has an integral part to play in the development of forestry in the South Island.

Dr Manley will take up his new position on July 1.



Dr Bruce Manley

## Farm Forestry Conference

The 1994 annual Conference of the NZ Farm Forestry Association was held in Greymouth from April 18 to 22. About 350 members attended, down a little from last year's conference numbers. However, membership of the Association continues to grow and has almost reached 4700. Two new branches were formed in the past year. This year eight agroforestry postgraduate students and two staff from Lincoln University attended.

One feature of the AGM session was the introduction of a proposed business plan; perhaps an indication of the Association's growth and maturity as well as a sign of the times.

Conference field trips highlighted the diversity of forestry and farm forestry in the Westland Region. The use of the wet impoverished pakihi sites were a feature of one day. However, we also saw other farm foresters growing shelterbelts and woodlots on more fertile sites. Both site types included a range of tree species. A visit to Wanganui Forest to see helicopter logging and a portable sawmill in operation in podocarp forest was a major highlight. Geoffrey Chavasse gave an excellent after-dinner talk about his time in Westland and this tied in nicely to an indigenous theme. On the last day beech silviculture was covered.

An excellent conference with a lot of fun times and interaction between people.

Next year's conference will be in the Bay of Plenty.

**Don Mead**



Site preparation of pakihi by V-blading at the West Coast Farm Forestry Conference. Photo: A. Bowker

## LETTERS

### Influence of site and discount rate on silviculture

Sir,

I am not sure what the Timberlands' regime is referred to by Geoff Fischer, but infer its main characteristics from the data he gives at age five. The age does not help much. It was, and is, better to use top height; I had assumed this was routine.

#### Quality of Upper Logs

I suppose the regime is a variant of what Dennis Richardson calls the direct sawlog regime. If this is so then, as long as the trunk holds together, the criterion for selection of the final crop is visible at top height of 10 to 12 metres. The criterion was, and is, as uninodal a length as possible above the pruned log. The objective of these wide-spaced, short rotation regimes is brutally simple and I had hoped would be apparent by now. It is clearwood and clear-cuttings, with some returns from animals, etc in the earliest years. The first result from pruning, assuming growth continues, is a clear-cuttings board, the lengths between defects increasing as the outside of the trunk is approached. The longest fully-clear boards will tend to be narrower. The first silvicultural work the Strategic Studies Group at the old FRI did was the cost of finger-jointing, and the clear-cutting lengths were measured in the

repeated grade studies. No doubt current research has refined these data.

#### Higher Stockings

With the drop-off in mortality, it is feasible to hold higher stockings than those proposed (as an interim measure in any case, it was apparent the mensuration base in 1968 was not at all comprehensive) 25 years ago. About four years ago I wrote a letter to The New Zealand Farmer proposing higher stocking with uninodal trees. It should now be possible to ease the restraint of the low early stocking a bit, if the log above the pruned one is UNINODAL. I hope the genetics people have this straight?

#### Effects of Interest Rate

This again seems to have been misunderstood. I have shown the effect of various interest rates on project ranking in the last of the 10 profitability papers (NZ Journal of Forestry Science 2(3) p 382). If regime B, say, is ahead at a 10 per cent discount rate, it is very likely to be ahead at three per cent. This is because of the characteristic expenditure and return flow in afforestation. I had sent a similar note on this to the Australian Journal some years ago.

#### Sigmoid Curve

The sigmoid curve for discount rates is an interesting idea and may well be true for all I know. I admit to being a sceptical economist a lot of the time as, whether the change in rates is sigmoidal or not, it is certain that interest rates change, and further, there is no objective way of choosing a rate. There is a Nobel Prize waiting for the solution of this topic. In the meantime, I took pragmatic refuge in the solu-

tion given in the paragraph above. I once surprised Treasury by protesting the interest rates they proposed were too low. This initially cheered them as unusual in forestry. But at high enough rates all that is necessary is a modest subsidy at that moment, and everything is covered by the ensuing interest. This is the only fun I have ever got out of that particular problem.

#### Commercial Thinning

Even if low interest rates apply, the "commercial thinning" remains self-contradictory. As soon as you make money by thinning, you can make a lot more by clear-felling. The crop acquires an additional opportunity cost that soon reduces the rotation. Surely by now the Zero interest doctrinaires can join the Flat-earth Society?

**R. Fenton**

### Forest valuation

Sir,

Investment in forest is becoming more popular and will become even more so as people look for places to invest their superannuation funds. For this to happen, and for it to reach its full potential, professional foresters must demonstrate their ability to account for the value of their forests.

In the past, accountants have placed the true value of forests in the too hard basket, and while quite prepared to go to extraordinary lengths to account for contents of sheds and cupboards etc, have shied away from treating forests in the same way. Today with computers and sophisticated forest models there are ade-