

# MANAGEMENT OF INDIGENOUS FOREST LAND\*

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## INTRODUCTION

The other papers to be presented to this meeting are of a technical nature, on specific aspects of the management of indigenous forest land, with particular emphasis on the problems of the West Coast of the South Island. It will be my endeavour, as one who has had 30 years' contact with the forest industry — in the physical working, recreational and commercial fields — to look at this subject from the viewpoint of an interested, concerned New Zealand citizen.

To gain a perspective of the scope and importance of indigenous forest land we should look briefly at the areas, classifications, and land tenures of this vast natural resource.

### *Area*

The total area of indigenous forest is 14.1 million acres, representing 21% of the total land area of New Zealand. This is just ten times the area planted in exotic forests — a fact which I am certain would not be realized by the majority of city dwellers.

### *Classification*

In terms of area and volume the beech forests, particularly in the South Island, are by far the largest in extent, and generally occur in the higher altitudes and river valley systems leading to these areas. Beech is the tree of the timberline. Next in area come the podocarp-beech stands, predominantly beech but with scattered podocarps, principally rimu. Almost of similar area are podocarp-hardwood stands, where the predominant species are hardwoods such as tawa, with scattered podocarps, usually rimu again.

Very much smaller classifications by area are the almost pure podocarp stands, such as those on the volcanic plateau in the central North Island; and the kauri-podocarp-hardwood forests of the north. These latter two groups have an economic value out of all proportion to their size.

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*Land Tenure*

Indigenous forest ownership and control is as follows:

	<i>million acres</i>
State forest ....	6.9
National parks and scenic reserves ....	2.6
Crown land not leased out ....	1.5
Maori land ....	1.1
Freehold and leasehold land ....	2.0
<b>Total</b> ....	<b>14.1</b>

Of this total, only 1.3 million acres is considered merchantable, and because the greatest exploitation in the past has been on private and Maori land, the bulk of the remaining merchantable indigenous forest belongs to the State.

*Other Unoccupied Land*

Directly allied to indigenous forest land, and usually adjacent to it, is an area almost as great comprising alpine grasslands, alpine barren lands, scrub and fern country, and the like. It is my opinion that, even allowing for the diversity of ownership and control, there is no person better qualified, or with greater professional responsibility for the management of these lands, than foresters. It is for this reason that my remarks will not be confined to the forest alone, but will take in the management of these additional areas.

This means that we are now talking about the management of some 45% of the whole land area of New Zealand. When one considers the energy, effort and expertise devoted to the management of all our agricultural land, which is only slightly greater in area, we realize what a tremendous responsibility rests with a handful of foresters, national park rangers, and others involved.

**MANAGEMENT AIMS**

It is not many years since members of the public who concerned themselves with the management and preservation of our indigenous forests and wilderness lands were very few. The national park concept began with the formation of Tongariro National Park in 1894, and stemmed from a gift of 6,500 acres from Chief Te Heuheu seven years earlier. National parks have grown steadily, until now there are ten parks covering five million acres, half of which is in standing forest. In addition, there are over a thousand scenic and historic reserves, plus reserves for the preservation of flora and fauna, totalling a further 1.1 million acres.

Despite the growth of parks and reserves over the past 50 years, it is only very recently that almost universal public awareness, concern and action have been directed at conservation and the environment. The flood of pollution in heavily industrialized countries has led to a re-thinking of

priorities in all developed countries, including our own. The explosion of these concepts on the national conscience, the questioning of the intrinsic values of maximum production and population growth, have caught us ill enough prepared for such dramatic change. And so the emphasis of the relative importance of the various alternative aims for the use of our indigenous forest lands must be reconsidered.

### *Management for Continuing Production of Indigenous Species*

This is not confined to rationing a diminishing supply to provide a little high-class wood for future generations. In areas yet to be logged it would seem that possibilities do exist for regenerating beech, particularly in the Maruia-Inangahua area of the West Coast and in western Southland, by leaving seed trees in logged areas. Similarly, regeneration by selective logging of rimu on terrace country in Westland is being carried out. These are the subjects of detailed papers at this meeting. However, the economics would appear to stem more from the unattractiveness of soil types, fertility and drainage for other land uses (such as conversion to exotics or to agriculture) than from the intrinsic economics of regeneration cycles in excess of 100 years.

The South Island beech utilization proposals, including partial regeneration in beech and partial conversion to radiata pine, are clearly sound in theory and now await further investigation to determine their economics. The Forest Service is to be congratulated on their widespread promulgation of this proposal, and their detailed consultation and liaison with such organizations as the Royal Forest and Bird Protection Society, the Nature Conservation Council, the Soil Conservation and Rivers Control Council, catchment boards, Forestry Development Council and the N.Z. Institute of Foresters. In this way they have forestalled the possibility of a wave of uninformed, emotional, adverse public opinion.

I feel that we can look forward with some confidence to the establishment of a pulp and possibly paper industry on the West Coast, and a wood chip export industry in Nelson and Southland, all based on beech.

### *Management by Conversion to Exotics*

Tremendous scope exists for the conversion of indigenous forest lands to exotic plantations, in both the North and the South Islands. This is being carried out by both the Forest Service and private enterprise. In the North Island prime examples are the development of cutover rimu-tawa on the Mamaku Plateau (3,500 acres this year by N.Z. Forest Products Ltd.) and the progressive development of 5,000 acres of cutover rimu forest by Taupo Totara Timber Co. Ltd., at Maroa.

Although techniques for land clearing are being constantly improved, the cost is still high and there remains great scope

for foresters to develop techniques further to reduce these costs. Areas of indigenous forest, the residue of logging operations, such as the ones mentioned, retain little attraction for recreational or environmental purposes. Rather than being abandoned as untouched cutover forest, they should be the prime target for conservation. Other criteria are their proximity to an existing or potential major utilization plant, and to a deep water export port.

In the case of the Mamaku development, all these favourable factors exist and, in addition, the forest is sited on a soil type well proven for its suitability for growing radiata pine. Yet in spite of all this, the once-only burn-off which makes this development possible drew an emotional outburst in the form of a leading editorial in the *N.Z. Herald* of 11 March 1972. Letters came in from ladies deploring the fate of geckos and skinks. From such ill-informed leaders is public opinion spawned.

It must be the task of the forest industry, already under attack for water pollution, and particularly of professional foresters, to educate the public on the benefits of forestry, and the temporary and passing effect of burn-off smoke over our narrow and wind-swept land. It was pleasing to see reported Jack Henry's remarks on this problem at the Seminar on Conservation at Auckland University in April.

### *Management for Protection*

Much of New Zealand's land area is steep country subject to heavy rainfall. This combination makes the management of our protection forests vital to prevent soil erosion and for the regulation of river water flow. We are fortunate that the great majority of steep country on the western watershed of the South Island is densely clothed in forest, rising through alpine scrub to alpine grasslands. North Island steep country, such as the Urewera and Tararua Ranges, is similarly clothed. The eastern watershed of the South Island, with only pockets of protection forest, suffered in the past from the effects of over-grazing and burning, with serious erosion resulting.

In theory, protection forests could be left untouched in perpetuity to perform their function as of yore. But this does not allow for the wants of man, or the animals he introduced. Once the effects of high animal population became evident, it became official policy, no doubt sponsored as much by foresters as anyone, to eradicate game animals completely. When this proved impossible, work was concentrated on priority areas, but it was not until the advent of commercial meat hunting that the situation was brought under some degree of control. Clearly, management of our protection forests to maintain their health and resilience is vital to our country. Research studies have been carried out at the Forest and Range Experiment Station at Rangiora on the interaction between animals and vegetation, particularly at the higher altitudes. In view of the importance of the subject, much more work should be done.

*Management for Recreation, Amenity and the Environment*

As the pressures of industrialized civilization increase, there is an increasing demand for recreation in remote unspoiled areas, along streams and rivers, above the timber-line, and on the open alpine tops. As population increases, so will this demand increase, and it should be actively encouraged. Recreational activities include fishing, hunting and shooting, tramping, climbing, skiing, camping, boating, nature study, or merely picnicking. Indigenous forests and wilderness areas are under different managements, with different emphases motivating those in control. It is the aim of national park authorities to preserve their areas as close as possible to their natural pristine state, while at the same time providing facilities for public enjoyment. A reasoned balance must prevail.

But there is nothing less pristine than the Top of the Bruce, or Ruapehu on a mid-winter Saturday afternoon. By comparison, why not allow a few chamois and thar to remain in Mount Cook National Park, rather than urge hunting permit-holders to destroy every animal possible? Civilized central Europeans would be aghast to hear this attitude.

Foresters, probably more than any other group, have influenced the recreational use of forest lands. Fear of fire, of unrestricted access leading to irresponsible damage, of hunting endangering culling parties, have all led to a conservative, if not restrictive attitude in the past. This has been gradually changed, first with formation of forest parks, beginning with Tararua Forest Park in 1954. A number of forest parks have followed, in areas of protection forest which have a high recreational value, and these now total almost two million acres. More recently, forest sanctuaries have been established, which will ensure that special features of native vegetation will be preserved.

Although facilities are being provided in national and forest parks, this should be greatly speeded up. For example, although 1.6 million visitors entered national parks last year, only \$152,000 was spent on capital projects, including only five new huts spread over ten parks comprising five million acres. These are days of increased leisure, rising crime and violence, and confusing social pressures. There is no better training, experience or tonic for young and old alike, than visiting forest lands, rivers and lakes, and indulging in the most physically demanding and rewarding pursuits commensurate with their health and age.

Young people should be actively encouraged by introduction to wilderness areas. As an example, in past years boys from Auckland schools have spent ten days before Christmas cutting tracks in the Hollyford Valley. They return bursting with enthusiasm. Such introductions can lead to tramping, climbing, hunting, fishing and canoeing. Foresters, as the most influential group controlling these areas, have a social responsibility to ensure their maximum use.

And now we come to hunting. Hunting is a sport engendering in tens of thousands of New Zealanders of all ages a sense of self-reliance, fitness, endurance and appreciation of the

beauties of the unspoilt wilderness. These advantages are found in probably only two other sports — tramping and climbing. This must remain part of our natural heritage. For too long foresters and hunting organizations, particularly the N.Z. Deerstalkers Association, have been diametrically opposed — on a collision course. This has been partly brought about by the polarized viewpoints adopted by both sides. "Noxious animal" is repugnant as a designation for large game animals — wapiti, deer, chamois and thar. It should be immediately discarded, and left to embrace only rats, stoats and the like. Now that big game animal numbers have been severely reduced by commercial meat hunters, a new deal in game management should be initiated by influential foresters. No one would argue that erosion-prone protection forest should not have browsing animal populations reduced to a level consistent with forest health. But no one could seriously imagine this number to be zero. Elsewhere, in less critical areas, private hunting should be actively encouraged.

In selected areas, responsibility for animal control and management should be handed over on a trial basis to established sporting organizations, such as the N.Z. Deerstalkers Association, who have already done extensive work with wapiti herds of Fiordland. Helicopter and commercial hunting should be prohibited from these areas. Overall Forest Service supervision and control could be retained. When one hears of the appalling restrictions on sporting hunting in North America, we must realize that this aspect of our heritage is in serious jeopardy. How many times have each of you said: "They will never get the last deer in N.Z.!" You can almost hear the old Macri moa hunters using the same phrase.

This is the most contentious aspect of management of indigenous forest land for recreation.

## THE ROLE OF THE FORESTER

The forester holds in his control or influence vast natural raw material resources. Yet, outside the Forest Service, what real influence does he have on its ultimate utilization? Where is the forester who is a director or general manager of a major forest industry company? It is a sad reflection that, once off the stump, control of your crop, so carefully managed, passes to the engineer and the accountant. The combined practical and scientific training of the forester should make him ideally suited for top management. So where is the gap occurring?

First, the narrowness of the employment base deters bright young men. Beyond the Forest Service and one or two major companies, employment opportunities are limited. Secondly, with one or two notable exceptions, there is no firmly established base of public consultancy practice as is found in other professions. This tends to divorce foresters from commercial decision-making in their earlier years in the profession. Thirdly, despite widespread publicity of the growing importance of the forest industry, there is little enough publicity of forestry as a profession.

The School of Forestry at Canterbury University should be inundated with applications for admission. Opportunities for professional forest consultancy do exist among potential Queen Street foresters. I know of one company wishing to establish a large forest and a Hawke's Bay freezing workers' union plans one. Those serving the farming industry — stock and station companies, farm advisory officers, tax consultants, accountants, etc. — have found a hunger among successful business and professional men for farming investments with tax advantages. While the history of forest investment has been a chequered one, there is now sufficient evidence that wood will find a market to engender confidence. Lack of certainty of sale at realistic royalties can be a snag. But if sufficient thought was given, for example, to the conversion of a large tract of cutover forest, scrub, or fern country to radiata pine, I feel certain that blocks would be taken up by city businessmen wishing to create a long-term asset while enjoying tax write-offs in the meantime. Care would be necessary to ensure the right location, the right method of ownership from a taxation point of view, and also to see that there was sufficient potential volume to provide for a utilization plant, rather than having to rely on bargaining for stumpage rates.

Most city people with funds are looking for a lead. If foresters do not provide it, other developers will.

With changing public attitudes and demands, you are faced with exciting challenges in the management of forest lands and resources, and in the creation of new ones. Let us hope that your response is equally exciting.