

EDITORIAL NOTES

Lodgepole Pine and Tongariro National Park

The National Park Act of 1952 states, *inter alia*, "The Park shall be preserved as far as possible in its natural state; and introduced flora and fauna shall as far as possible be exterminated." Park administrators, acting under this authority, are starting a programme of control aimed at removing all lodgepole pine from within Tongariro National Park and preventing any recolonization from taking place in the future. Insofar as the Act gives an instruction to this end there can be no dissension by its administrators, but the unrealistic and unqualified nature of this instruction warrants criticism.

The saving phrase "as far as possible" not only leaves too many loopholes for neglect of principle: it also leaves too much at the mercy of transient political opinion. As foresters we must be aware of the almost emotional reaction against lodgepole pine by various groups of people—even to the extent of discussing the species as though it were a noxious weed—and we should be prepared to speak up on behalf of the tree for the sake of New Zealand's future welfare.

What would we be defending? Most foresters would agree that the species is very versatile. Its main ecological characteristics are adaptability over a wide range of climates and soils, resistance to frost and drought, and precocity in seeding and dispersal. It is a strong light-demander; one of the earliest pioneers on exposed, barren sites; and a valuable nurse species for other and less hardy plants. It is not unpalatable and it is prone to windthrow. It produces a useful general-purpose softwood, suitable for fuel, roundwood, timber and pulp.

However, our agreement would also extend to lodgepole pine an important role in those mountains and watersheds where a hardy pioneering species is urgently needed, to give foresters and conservationists a tool capable of repairing rapidly the ravages of erosion. The species is still the only one to which any experienced worker would pin hope for the most difficult revegetation work in the mountains. It is for this reason that we cannot afford to jeopardize use of this tool, nor allow its use to be removed from our field of judgement.

Nevertheless, if we support the action of the Park Authority, we should allow neither ourselves nor others to be deluded into thinking that this is any more than a compromise with current opinion. It would be particularly unfortunate if it were interpreted as tacit acknowledgement of a weak case, or if further generalizations were based on this particular decision. Uninformed human interpretations of ecological interactions are notoriously transient and self-centred, and nowhere are they more prevalent than in the field of the park services, where natural laws impinge on peculiarly human values: be they recreational, historical, cultural or aesthetic. The contra-

dictions inherent in this impact lead inevitably to a biased opinion about such questions as follow:

Is the vista of scrub and tussock clad mountainside scenically more attractive than contrasting prospects between tussock or snow and scattered dark groups of pine? Which offers better opportunities for recreational use?

Would skiers, nature-lovers, trampers, motorists and casual visitors (*i.e.*, the principal users of the Park) prefer funds to be spent on an annual campaign of destroying pine regeneration or on more constructive projects?

If lodgepole pine is an unqualified anathema to the floristic purist, should he not apply the same touchstone to heather in Tongariro National Park and to the multiplicity of exotic and noxious weeds in scenic reserves?

Can we afford to expend resources on this recurring control when vital problems such as *Nassella* and sweet brier infestation face us elsewhere?

Would those who so vociferously demand the eradication of lodgepole pine wherever it adjoins mismanaged or undeveloped land extend this to *Pinus radiata*, and indeed to a host of other species, if there were a major farming recession in New Zealand?

Are the economic losses, and even those of human life, likely to be greater from continuing and uncontrolled erosion of our mountain lands or from the spread of lodgepole pine?

There is no need to press these questions beyond the point where self-contradictions appear. For the forester, whose fundamental tools of trade include ecological manipulation, each such question must be assessed impartially and within the whole context of values concerned. By exercising judgement to support the measures for controlling lodgepole pine on Tongariro National Park we affirm our capacity to exercise that judgement elsewhere.

The Eighth British Commonwealth Forestry Conference

The Eighth British Commonwealth Forestry Conference, held in Nairobi, Kenya, in June and July 1962, was attended by some 65 delegates representing 20 countries, including New Zealand.

Conferences of all types proliferate in these days of speedy travel and one may be excused for harbouring cynical thoughts about the value of some. Even our own Commonwealth Forestry Conference has not lacked critics in this respect, but there can be no doubt in the minds of the *cognoscenti* that the long-term benefits accumulating from the series is very considerable. This is evident not only in forest policy and administration — the primary function of the Conference — but in technical progress as well. How many valuable papers, written specifically for the occasion, might never have seen the light of day without this stimulus?

The Conference has two great advantages — a common language and the Commonwealth bond — which facilitate, even stimulate, discussion free of political or national humbug. Personal views are freely exchanged and real progress is achieved.

The East African venue was timely, coinciding with the emergence of three new nations — Tanganyika, Uganda, and Kenya — who must

now face the problem of replacing an ex-patriate administration with indigenous staff. The customary review of local forestry problems by the Conference will undoubtedly prove extremely valuable to the new administrations and strengthen their hands immeasurably. For example, the staffing difficulties now facing the host countries received special attention and various measures were recommended to meet the impending loss of trained staff. These included a call to member countries for the loan of personnel on short-term contracts and for offers regarding training and educational facilities.

The growing pressure on land for agriculture in the host countries was duly noted. The Conference reiterated needs for an adequate and permanent forest estate, together with the importance of planning and co-ordination of land use with the aid of full forestry representation.

The Conference went further by drawing to the attention of governments the indirect benefits of forestry which should be taken into account in making land-use decisions. The stumpage value of timber should not constitute the sole basis of valuation but rather the total value of the products of forest-based industries and their role in the national economy, together with the many other forest influences of benefit.

A spirited attack on the use of compound interest in forest accounting and valuation, and the call for more research to determine intangible benefits, reflected fairly widespread dissatisfaction with stumpages and their use as a yardstick in determining land use. It is gratifying to know that some research is already being carried out in New Zealand on some aspects of this problem.

The Conference drew attention to the great importance of forests in conserving water resources and, noting that this has been confirmed by precise experiments in several countries, recommended that forests in stream-source areas should be conserved until the physical and biological consequences of conversion to other land uses have been determined.

Although these land-use resolutions were framed in an East African setting where water is precious (some 96 per cent. of the land receives less than 50 in. of rain per annum) and the pressure on land considerable, they are equally applicable to New Zealand.

It would be interesting to know the full cost of farming our steeper and generally lower yielding hill-country: a cost that is borne in part by the community at large through river control, maintenance of communications and so on. If the true cost of introducing grass and stock to this type of country could be determined and apportioned, and it must be very substantial, there would be a sharp decline in hill-country farming and the development of this steep land.

In the silvicultural field there are several resolutions of note which should stimulate technical progress. In the first place the Conference called for fundamental research to determine the effects of spacing and thinning on tree and crop development and an early exchange of information on relevant current research.

Recent articles in this *Journal* only serve to emphasize the weakness of *ad hoc* local studies and the need for more fundamental research. Surely we have accumulated by now sufficient data and experience in New Zealand to offer something tangible on which

foresters can build to suit local conditions. In doing so, authors should take heed of the Conference plea for standardization of criteria in defining stand densities or thinning grades. These are: numbers of stems, basal area per acre and dominant height (mean of 100 largest trees per acre).

Research organizations were called upon to publish interim results from pruning studies and member countries were urged to exchange information on both pruning techniques and equipment, as it was observed that these differed widely from place to place for no obvious reason. An evaluation of techniques and equipment would be commendable in New Zealand for a start.

The Silvicultural Committee of the Conference recognized the importance of seed certification, tree breeding and species and provenance trials, and discussed these inter-related matters at some length. The Committee report and recommendations will be read with interest in many research institutes as it represents the considered opinion of the specialists who contributed papers and the leaders of Commonwealth forestry who studied them. We can hardly afford to be satisfied with our progress in New Zealand, leaning as heavily as we do on one species. Some heed should be paid to the Conference recommendations that species trials should be expanded and information thereon exchanged as soon as possible, particularly as regards provenance.

In the limited space available in these notes only a few fleeting references can be made to the business of the Conference which ranged from high policy to tools used in the woods and from seed certification to utilization. There was some talk about lengthening the Conference cycle to avoid clashing with FAO gatherings; this would be a pity, as five years is a good interval. It is to be hoped that the Ninth Conference will in fact take place in India or, failing that, Cyprus in 1967.

Westland Forests and Timber Industry

Members of this Institute will already be aware of the dilemma created by the more-or-less contemporaneous report of the West Coast Committee of Inquiry (September, 1959) and the findings of the Arthur D. Little Survey Group from the United States, which was sponsored by New Zealand's largest private owners of cutting-rights over native forests. In a subsequent supplementary report (October, 1960) the Committee appended the gist of the Survey Group's recommendation that a large-scale integrated forest products industry, preferably under one organization, should be established for the whole West Coast region.

Proposals for such an industry were submitted by Fletcher Holdings Ltd. and approved in principle by the Government during 1962. It is not yet known how far these proposals go towards meeting the economic and sociological needs for maximum local processing and most efficient utilization. However, since these are clearly also in the interests of the company itself, and the prize of long-term cutting rights is not available on this scale anywhere outside Westland (which contains half of all the remaining State-owned indigenous softwood resources) it is probable that these requirements will be met.

What is of more interest to this Institute, and to New Zealand, is how firmly the industry will adhere to the principle that . . . "The larger State forests to be exploited will be managed for a sustained yield." (*N.Z. Forest Service Ann. Rep.*, 1962, p. 18.)

Foresters will be most attentive to learn what safeguards the administering authorities propose to incorporate in their terms of sale, to ensure that operations are not based on what has been called "the common fallacy that forest utilization and timber utilization are synonymous terms". Indeed, unless it is ensured that regeneration and exotic establishment keep pace with concurrent timber utilization the principal objectives of the West Coast Committee of Inquiry will ultimately be nullified. In this connection it is to be hoped that the industry will realize that "keeping pace" involves the restraints of fullest utilization and fullest co-operation on their part — and will act on that realization.

This is one of the few remaining opportunities for the indigenous timber industry to prove that it can keep faith with posterity.

Stumpages Again

In his address for 1963 our President has commented on two major industrial developments during the year. He pointed out that, while our sincere congratulations go to the engineers and executives who built these extensions of processing capacity, it should not be overlooked that they are equally a triumph for those men whose faith and sweat created the productive assets on which these industries are based.

However, those most closely involved in managing the forest resources concerned will no doubt have tempered their pride in the knowledge of how little of the financial return actually accrues to the forest, for the benefit of the future crop. This hand-to-mouth subsistence by forest management is acute enough even when forest and industry are fully integrated, as in the case of New Zealand Forest Products Ltd.; but it generates a plethora of anomalies when "the initial link, the one which connects forest-owner and primary purchaser . . . the key link of the whole chain" is allowed to become a factor in government policy.

That it was considered necessary, in the early years of establishing the Tasman Pulp and Paper Co. Ltd., to enter into a contract guaranteeing supplies of raw material, is reasonable. That its socio-economic value to the country also warranted initial financial support is a matter of sound political judgement. That the price of this raw material should be nominal, and fixed for a twenty-five year term, is a very different matter. How is it that our fiscal authorities did not adopt the direct and obvious method being used by the British Government to establish a £20 million pulp and paper industry in the Scottish Highlands? As in the case of Tasman, the project is being underwritten by a Government loan, to the tune of £10 million, and at 5½ per cent. interest. However, the interest is to be waived until the plant is fully operational. How much less involved this is than to devalue State-owned raw material as a hidden subsidy: creating more long-term problems than the short-term one for which it is a misleading solution.

Now that Tasman has just carried forward its first credit balance may we not reasonably expect the nonsensical flat rate stumpage of only threepence per cu. ft, for all sizes and species of logs, to be waived? The anomalies created by inflexible government control of commercial procedures which should operate freely have been pointed out many times: to wit, the effect of timber price control in encouraging wasteful end use, fostering depletion of indigenous resources and promoting certain trade malpractices. The Forest Service is now trapped in a curious vicious circle in its efforts to secure a substantial investment in timber production by farmers. A recent article in *Farm Forestry* (N. Alexander, May 1963) asked, most pertinently, how this could be justified when the Forest Service itself accepted scales of stumpage which are totally uneconomic, thereby setting the pattern for the whole industry.

The timber industry will doubtless reply that it is unable to absorb increased stumpages. Yet it may be noted that the shares of Tasman have already appreciated by 75 per cent. over their nominal value, and there has just been a 1 for 10 bonus issue. The net profit of Fletcher Holdings Ltd. amounts to 13 per cent. of shareholders' funds, while N.Z. Forest Products Ltd. earns 12 per cent. How many independent forest owners earn even 5 per cent. on capital? We are aware of only three, and these are all peculiarly well situated in a seller's market. It is significant that buyers of their stumpage are both satisfied and competitive.

Latterly foresters have frequently been enjoined to take more interest in the stages of converting and manufacturing their raw material. However, a watch over the financial results after processing is equally crucial. Of little use for us to create forests which are the most productive in the world, if we abdicate our firm title to negotiate that initial link which assures the benefits accrue to the nation as a whole.

C. M. Smith stated with typical cogency that "the devising and negotiating of sale contracts and methods which will at one and the same time permit timber growers to continue to function on unchanged areas, and timber purchasers to conduct their operations profitably without hampering and even bankrupting their suppliers is a function of the forestry profession. . . ." The haft of this tool is still within our grasp: may we learn to wield it more effectively.

International Soil Conference, New Zealand, 1962

In November, 1962, New Zealand was host to the first joint meeting of two commissions of the International Society of Soil Science — those dealing respectively with soil fertility and plant nutrition; and soil genesis, classification, and cartography. N. H. Taylor, president of the conference and retiring director of N.Z. Soil Bureau, described this as "an opportunity for soil scientists of Commissions IV and V to get together and do some hard thinking on the inter-relationships of their fields of work." The conference drew some 130 overseas visitors, including some eminent forest-soil scientists, from more than 30 countries. With New Zealand participants, the total attendance was more than 300.

The meeting itself, held at Massey College, was preceded and followed by extensive tours of both islands, allowing overseas

visitors to see the country, to examine a range of soil sites specially prepared by the Soil Bureau, and to visit research stations investigating soil and land utilization problems. The meeting was organized in 21 sessions at which over 100 selected papers, which had been pre-printed, were spoken to and discussed.

Although agricultural and pastoral uses of soil naturally predominated, forestry considerations entered frequently, and particularly in discussing such topics as humus formation, biological and chemical aspects of mineralization, plant nutrients and their availability, and the problems of steepland soils. For foresters, however, most interest centred in the short session entitled "Methods of assessing forest site capacity", a subject which was well reviewed by the opening speaker, Dr P. J. Rennie of Canada. Five other papers were concerned with the best use of land available for forestry, and the maintenance of forest soil fertility. Conference papers and summaries of discussions will be published later this year in the *Transactions* of the conference.

Forestry and forest-soil problems were touched on during tours, and at least the North Island tourists made acquaintance with extensive exotic afforestation when they passed through Kaingaroa. Some of the visitors interested in crop yields were surprised at the high volumes obtained with exotic trees. It is evident that, in terms of average annual production of dry matter, our fastest-growing species are making extremely efficient use of available soils and sites, when compared with many different crops around the world.

Of general interest at the meeting was an outstanding soils exhibition, set up in the Wool Room at Massey and covering in broad outline the soils of New Zealand, their uses and their problems. A feature of this exhibition was an impressive display by the Forest Service, illustrating land forms of the West Coast and their associated soils and forest types. A special flight from Palmerston North was arranged for those wishing to see some West Coast soils and problems at first hand.

True, there may be misgivings about the tremendous costs in cash, scientific resources, and human effort when a small country sponsors a large international conference; there may be doubts as to whether the solid contribution to knowledge justifies these costs; and there may be a strong case for a different kind of conference organization in which small working groups of specialists present their conclusions and recommendations to plenary sessions. But in this case the consensus of local opinion would almost certainly be that, at least for the host country, the gains — direct and indirect, tangible and intangible, to the country as a whole and to the participating individuals — were large, and well worth the efforts involved. All concerned, and the Soil Bureau in particular, can take justifiable pride in a job well done.

But what of New Zealand forestry and forest soil science in the future? The remarks of Dr C. E. Kellogg, of U.S. Soil Survey, in a public address during the conference, are applicable. Stressing the need for basic knowledge of soils and their fertility, he said that improvements in soil use during the past 25 years, as shown in yields and agricultural efficiency, were ". . . truly phenomenal . . . one of the greatest scientific success stories of human history. And the rate of improvement is still accelerating. Somewhat similar advances have been made in forestry and in other uses of soils. *And really we have only begun to put soil science to work.*"

Trans-Tasman Trade

The first meeting of the Australia-New Zealand consultative committee on free trade was held in Canberra during May, and is in the course of examining the whole range of trans-Tasman trade, industry by industry. Almost 75 per cent. of Australian exports to this country are already admitted free of duty. However, a permanent extension of this free trade between the two countries would be mutually advantageous for several reasons. It would provide a combined market numbering 13 million people. It would prove more attractive to capital investment from overseas. It would promote the co-ordination of industrial development.

The latter is particularly desirable because the natural advantages of the two countries are to a considerable degree exclusive and complementary. Thus, Australia possesses abundant mineral resources and greater manpower, while New Zealand is peculiarly blessed in her environment for primary industries and in her geothermal and hydro-electric resources.

The value of New Zealand's imports from Australia in 1961/62 amounted to nearly £48 million, while exports to that market were valued at less than £11 million. Of this amount, forest products contributed half. As it has been estimated that Australia's pulp and paper requirements will have doubled by 1970 it is obvious that our two governments should give the fullest support to free trade in forest products generally.

An excellent example of the potential of this trans-Tasman rapport is provided at the commercial level by the recently-announced agreement between the Tasman Pulp and Paper Co. Ltd. and Australian Newsprint Mills Holdings Ltd. The latter represents 66 per cent. of Australia's newsprint consumers, and the long-term contracts involved will absorb the whole of Tasman's exportable surplus of newsprint. During a period when world production of both pulp and newsprint will continue to exceed demand, the benefits of such trans-Tasman agreements are mutual. The advantage to New Zealand is obvious. Australia will benefit from cheaper and guaranteed supplies of material, the price of which is automatically related to the landed cost of Canadian newsprint.

It may be noted that industries not based on primary production from the land contribute less than 20 per cent. of the value of our exports to Australia. To most manufacturers in this category any programme of industrial development automatically involves a high degree of protection and the imposition of "many of the elements of a wartime siege economy". The anachronism of "self-sufficiency" is still invoked by politicians, to rationalize tariff walls and import licensing. Free trans-Tasman trade is impossible if industries are to be protected against their own inherent inefficiency—often euphemistically referred to as "domestic difficulties". There is no better guarantee of continued economic growth and full employment than to encourage and integrate those industries which are based on the natural advantages of our two countries. For New Zealand these advantages are our climate, soil and water resources. Based on them, our farm and forest industries could lead the world.