

THE SEVENTH BRITISH COMMONWEALTH FORESTRY CONFERENCE, AUSTRALIA AND NEW ZEALAND, 1957

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Summary

The writer touches briefly on the history of the Commonwealth Forestry Conferences since the initial one in the United Kingdom in 1920. The Seventh Conference is then described, touching first on the formal proceedings, and then passing on to a description of the extensive tour programme.

Introduction

Consideration of this, the Seventh British Commonwealth Forestry Conference, prompts enquiry as to dates and places of previous conferences, and to their purpose. Briefly, the First British Empire Forestry Conference (as it was then called), took place in the United Kingdom in 1920, the Second in Canada in 1923, the Third in Australia and New Zealand in 1928, the Fourth in South Africa in 1935, the Fifth in the United Kingdom in 1947, the Sixth in Canada in 1952 (this was the first in which "Empire" was changed to "Commonwealth") and the one under review, the Seventh in Australia and New Zealand in 1957.

According to Lord Lovatt in his opening address to the First Conference, the latter was the outcome of suggestions made from Canada and India on the advisability of holding a British Empire Forestry Conference at the same time as the Empire Timber Exhibition in the United Kingdom in 1920. In Lord Lovatt's opinion there were three outstanding matters on which the members of the Empire might consult and co-operate; first, investigation of Empire Resources; secondly, the question of Forest Policy and the Forest Authority; and thirdly, the question of Education and Research. Again, the purpose and particular value of an Empire Forestry Conference has perhaps never been better described than in the concluding words of King George V in his reply to a loyal address from the First Conference:

"It is a peculiar difficulty of your work that it demands perhaps more imagination, more patience and more foresight than any other industry, and it is an immense advantage that the experience of all parts of the Empire should be brought into a common stock and made available for all."

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The Seventh Conference

Turning now to the Seventh Conference. This was preceded by several alternative pre-Conference tours in Papua, Australia and Tasmania, and by a Forest Products Conference, and succeeded by alternative post-Conference tours in New Zealand. The writer was privileged to attend the proceedings of the main Conference in Australia and New Zealand as a member of the New Zealand delegation.

Following the opening of the Conference in Adelaide on 26th August, 1957, and a three day session there, the tour programme commenced: To the exotic softwood forests of the Mt. Gambier district of South Australia; to the eucalypt forests in the mountains, in the foothills, and in the dry zone out from Melbourne, and to the Division of Forest Products laboratory in Melbourne, Victoria; to the eucalypt forests and temperate rain-forests in the Wauchope and Coff's Harbour districts of New South Wales; to the exotic softwood forests north of Brisbane and the artificially established indigenous hoop-pine and kauri forests in Mary Valley, near Gympie, Queensland. Thence to Canberra where, from 15th to 25th September, Conference sessions were resumed, interspersed during weekends with field excursions to exotic softwood and indigenous eucalypt forests in Australian Capital Territory. Conference travelled from Australia to Auckland, New Zealand, on 26th September. The New Zealand programme comprised field tours in Auckland Conservancy, to indigenous rain forests and sand reclamation projects west of Auckland, wood-using industries in Auckland City, and to Maramarua exotic softwood forest; to exotic softwood forests, to major integrated forest industries, to the Forest Research Institute, and to limited Conference sessions, in Rotorua and Rotorua Conservancy; to brief glimpses of indigenous and exotic forests in Wellington Conservancy; and to Canterbury for the closing sessions of Conference in Christchurch from 6th to 10th October. From its commencement in Adelaide on 26th August to its termination in Christchurch on 10th October, Conference travelled long distances by air, rail, road, and sea.

The Conference was attended by some 80 delegates and associate delegates representing 18 countries. In addition, there were two guests, one from F.A.O. and one from the U.S.A. The delegates represented a wide range of botanical, climatic, economic, and sociological conditions in both hemispheres. A description of the Conference falls conveniently into three parts, the Conference Proper (covering formal sessions, committees, resolutions, statements and papers), the Tour Programme, and General Impressions. In the paragraphs that follow no attempt will be made to describe in detail each of these three parts, but rather to give the highlights only. It should be said too, that the description of the Australian part of the Tour Programme is coloured by the fact that it was the writer's first sight of Australia, its forests, and its forestry.

The Conference Proper

With a formidable agenda to be worked through, sitting days limited to sixteen, and the diverse interests, experience, and opinions present, the Chairman's task was an onerous one. This task, G. J. Rodger discharged in admirable manner, demanding steady progress through the agenda, permitting reasonable latitude in debate, prompting discussion on aspects of the subject which had been missed or in which treatment had seemed inadequate, and throwing in appropriate light comment when argument had developed too much heat. In Rugby parlance the referee maintained complete control of the game with a minimum use of his whistle!

Following the procedure at previous conferences each subject was introduced by one or two principal speakers and then thrown open to debate. Wherever possible delegates with a particular knowledge of, or interest in the subject to be discussed informed the Chairman prior to the session of their desire to take part in the debate. Papers tabled at the Conference were not read but formed a background against which those present could build. The presence of many representatives of forest products laboratories and of the wood-using industries made it certain that in all discussions on production forestry proper emphasis was given not only to the growing of the raw material wood, but to the growing of wood as far as site conditions permitted, best suited to consumer needs.

Land Use

Land use and land use planning were debated at considerable length, indicative of the importance attaching to it and to the common interest in the basic resources, soil and water. Certain basic assumptions were made in introducing the subject. Firstly, that the state has a duty to ensure that its basic resources of soil and water are conserved and developed for the use of man; secondly, that under a parliamentary or democratic form of government, state control of the usage of privately owned land is likely to be restricted within clearly defined limits; thirdly, that the pattern of demand for land changes, often in unpredictable ways, hence the period of time for which land planning can be realistic is limited; and fourthly, any form of land planning requires assessment and classification of land-use potential by technically competent staff, and then the implementation of such classification by adequate administrative and legal machinery. It was made clear that the classification must be objective, and that it called for the teamwork of staff trained in many disciplines, the geologist, the soil scientist, the ecologist, the agriculturist, the forester, the hydrologist, etc. Trends in population, in per capita consumption, changes in use of materials, sociological, economic and political considerations, required the opinion of experts in these fields. The forester, because of the nature of his crop, protection or production forest, tended to see the problem in better perspective than many other land interests. Even so, his approach

could never be completely objective, and, in addition, appraisal by a team of independent experts is likely to carry more weight with governments than that of the forester alone. It was suggested that in planning for self-sufficiency in timber the forester can do no more than to plan ahead for the length of a crop rotation.

Multiple Use

Consideration was given, also, to multiple use in forestry, particularly in relation to the forested catchments of urban water-supply schemes. It was agreed that the primary purpose of forests on such catchments was to ensure continuity of water-supply, stability of soil, and prevention of sedimentation. Provided these functions were protected and preserved, there could be no objection to the supplementary use of such catchments for recreation, timber production, etc. The purity of water from a public health point of view, and the reason for single-use policy in catchment control, can be accomplished through the installation of treatment plants. The solution to this problem is essentially a local one and depends on the relative cost to the community of treatment plant v. productive land in partially productive single use.

Forest Finance

Of interest to New Zealand delegates was the discussion on forest finance. Money must be spent on the tree crop during the long period between sowing and harvest if optimum production, in quantity and quality, is to be obtained from forest land. In many countries where forests have been established by planting, and also where forest management is changing from exploitation only to sustained yield working, necessary work on tending of the tree crop shows a steady increase. How best to be assured that adequate funds would be made available by government as and when necessary, was debated. Could a forestry fund be created that would guarantee to the forest authority continuity of finance for the next ten or twenty years? The consensus of opinion was that however desirable this might be, it was impracticable in most cases. Forest authorities must develop public opinion until it is well informed on the value of forestry, and rely on this and the soundness of its case put to government to secure adequate, annual appropriations.

Committees

These were set up to consider and report to Conference on the following matters, Forest policy; Silviculture, forest management, forest protection, and forestry research; Timber utilisation; Australian forestry; New Zealand forestry. A limited number of the normal Conference days was available for meetings, but the bulk of committee work inevitably had to be done as and when members could conveniently be got together. In many ways, these meetings were the most informative parts of the Conference and the writer's main regret was the impossibility of attending all meetings.

Resolutions

Following the presentation and debate on the committee reports, resolutions were drafted embodying their major recommendations and views, and agreed by Conference.

Papers and Statements

These covered a wide field of interest and highlight an important, indirect function of these Commonwealth Forestry Conferences, a periodic stock-taking, putting in to the common fund information on forest resources, on new developments, techniques, and experience.

Proceedings

A full account of Conference discussions, committee reports, resolutions, papers and statements will be found in the published Proceedings of the Conference.

The Tour Programme

South Australia

Leaving Adelaide at 9 p.m. on the 28th August the party travelled by train to the south-east corner of the State, arriving at Mt. Gambier at 7 a.m. the following morning for a two and a half day examination of exotic forests and associated wood-using industries.

The Mt. Gambier area is characterised by a regular winter rainfall, usually without an excessively dry summer, annual precipitation ranging between 22 in. to 32 in. Planting commenced in 1876, continued to 1890 in a small way, and was resumed in 1907 from which time it has been continuous. Scale of planting has been somewhat similar to that in New Zealand, small annual plantings in the early years of the century with a marked expansion of activity in the mid-twenties to mid-thirties. New planting is still continuing. State exotic forests amount to about 100,000 acres distributed over three large and two small forests, while private exotic forests amount to 45,000 acres. These are all within 40 miles of Mt. Gambier and *Pinus radiata* is the principal species.

In the stands seen branching was light by New Zealand standards, Maramarua Forests in Auckland Conservancy, or those in Nelson Conservancy being the nearest comparison. Stem form was reasonably good, though a southeast lean and an elliptic cross-section appeared characteristic. Utilisation commenced early with the establishment of the Mt. Burr sawmill in 1931. While some clear-felling and thinning from above was necessary during market development and to meet local needs as far as possible the development of sustained yield management has been the objective. Thinning regimes have been developed and applied so that at the present time some 80 per cent of stands of thinnable age have been thinned from one to four times. It was stated that currently only 25 per cent. of total log production was from clear-fellings.

Sample plots covering varying thinning treatments were examined at Penola Forest. Of interest are the following figures for *P. radiata*, planted 1923 at a spacing of 7 ft. x 7 ft., Site Quality IV:

Plot	Age at thinning and intensity			
		17 years	25 years	30 years
x ----	----	895 to 505	500 to 310	310 to 251
y ----	----	850 to 400	390 to 247	247 to 207
304 ----	----	860 to 313	313 to 224	224 to 172
305 ----	----	Control		

Results have been as follows:

Plot	Volumes in cu. ft. (i.b.) to 4 in. top			
	x	y	304	305
Total yield from thinnings	3,307	3,313	3,958	Nil
Standing Timber, 1957 ----	8,037	8,364	7,319	10,309
Total timber to 1957 ----	11,344	11,567	11,277	10,346
M.A.I. to date ----	334	340	332	304

It was stated that commercial thinnings for many years have been at intensities ranging between those of Plots Y and 304.

Utilisation plants seen were the Nangwarry State sawmill (erected 1939) with an annual log intake of 2 million cubic feet; the Mt. Burr State sawmill (erected 1931), log intake comparable to the preceding mill; the Mt. Gambier State sawmill in course of erection, with an expected ultimate log input of 4 to 5 million cubic feet annually; the paperboard mill operated by Cellulose Australia, Ltd. The early provision of a large utilisation plant and the State's dependence on her exotic forests for local timber supply have combined to produce conditions conducive to intensive forest management. The increasing potential of these forests has made possible the development of increased utilisation facilities, while the forests themselves are now in a condition better able to meet the requirements of a changing and increasingly competitive market.

Victoria

The party left Mt. Gambier by air for Melbourne at intervals on the 31st August. With Melbourne as a base, day tours were made by bus to the forest districts of Upper Yarra on September 2nd, Broadfoot on the 3rd, and Rushworth on the 4th.

The Upper Yarra forest district includes forests on the slopes of the Great Dividing Range, taking in the bulk of the upper reaches of the Yarra River catchment and portion of the headwaters of the Latrobe River. The forests seen were the temperate, moderate rainfall, mountain forests on better sites at higher elevations in rainfalls over 45 inches, with mountain ash (*E. regnans*) the predominant species

and associated species messmate (*E. obliqua*), alpine ash (*E. delegatensis*), mountain grey gum (*E. goniocalyx*), and manna gum (*E. viminalis*). At lower altitudes and rainfalls were seen mixed stringybark, peppermint and gum forests, with messmate as the principal species, and peppermint (*E. radiata*), silvertop (*E. sieberiana*), brown stringybark (*E. baxteri*), manna gum, and mountain grey gum associated. Eucalypts growing in their natural environment are an impressive sight. During this day also, some appreciation was gained of the fire hazard in the eucalypt forests and of the equipment and organisation developed to cope with it.

The day in the Broadfoot forest district was spent at Mt. Disappointment State Forest which is on the fringe of a large expanse of timber country. This forest is on a plateau at 1,700-2,300 ft. elevation, falling away on all sides in steep escarpments to the foothills at 1,000 ft. elevation. Messmate and peppermint were the main species on the plateau, with manna gum and swamp gum (*E. ovata*) in the moister situations. Some stands of mountain ash were seen in deep, moist gullies on the higher country. Mixtures of other eucalypt species occurred on the drier and poorer quality sites of the escarpments and foothills. Examples were seen of various silvicultural treatments in older regrowth stands, and treatment prescriptions explained.

In the Rushworth Forest District, a day was spent in a forest of the same name, west of the Great Dividing Range. This was a dry forest area with rainfall of 20 to 22 inches (absolute minimum 8.3 inches), with summer temperatures exceeding 100 deg. F. and winter frosts common. The main species were red ironbark (*E. sideroxylon*), grey box (*E. hemiphloia*), and yellow gum (*E. leucoxylon*). Noteworthy was the sparse undergrowth. Post, pole and sleeper cutting operations were seen and also the production of eucalyptus oil from blue mallee (*E. fruticetorum*).

The three days were an excellent demonstration of widely varying forest types developed under a wide range of climatic and site conditions. A highlight of the Victoria tour was the well organised, and informative visit to the C.S.I.R.O., Division of Forest Products Laboratory in Melbourne.

New South Wales

On the 6th September the party left Melbourne by air for Sydney and from there by train near midnight on the same day. Leaving the train at Taree buses took the party to Manning River National Forest No. 1 to see regeneration treatment of blackbutt (*E. pilularis*), even aged stands of the same species resulting from a heavy fire in 1939. Following a halt at Heron's Creek Timber Mills Pty. Ltd., where logs of blackbutt, tallow-wood and turpentine were seen, the remainder of the day was spent at Middle Brother State Forest. This blackbutt forest contains the largest known blackbutt in New South Wales. Known as the "Bird" tree its dimensions are: girth (at 4 ft.

above ground) 37 ft., total height 227 ft. With an annual rainfall of about 60 inches, the district has a subtropical climate although light frosts occur in winter. Rotations adopted for blackbutt are 70 to 90 years with trees of 20 to 28 inches D.B.H. as the objective. The day finished at Wauchope.

On the 8th a day was spent in the Bellangry Forest Group. Here altitudes range from 400 to 4,200 feet and rainfall from 65 to 90 inches. Principal species seen were blackbutt, managed under a clear felling system with four to eight seed trees left per acre. Ringbarking of cull trees followed the main logging operation. Thinning plot trials have shown that a thinning to 300 stems per acre or less at ten years maintains diameter increment on select stems. The train was rejoined at Wauchope in the evening and the journey resumed to Coff's Harbour.

Leaving Coff's Harbour by bus the morning of the 9th was spent in flooded gum (*E. grandis*) stands at Newry State Forest where problems involved in the regeneration of flooded gum were demonstrated. The afternoon was spent at Moonpar State Forest, a rainforest on the Dorrigo Plateau. In this forest tallow-wood (*E. microcorys*) reaches a fine stage of development. It has associated with it blue gum (*E. saligna*), brush box (*Tristania conferta*), and coachwood (*Ceratopetalum*). The physiognomy of this forest was reminiscent of rainforest stands in Northland, New Zealand. The memorial to Norman Jolly, in the 150 acre memorial grove in this forest, was unveiled by the Conference Chairman during the afternoon—an impressive tribute to a fine forester.

Queensland

Leaving Coff's Harbour by train on the 10th, temperatures increased steadily during the day until Brisbane was reached in the late afternoon. On the 12th the party left Brisbane by bus heading north to the exotic forests of southern pine species at Beerwah State Forest. Queensland's artificially established softwood forests amount to 75,000 acres, comprising indigenous species 41,000 acres, and exotic species 34,000 acres. The principal exotic species is slash pine (*Pinus elliottii*), this accounting for 24,000 acres, with loblolly (*P. taeda*) next in importance. Thinning methods and tree-breeding results and objectives were demonstrated and explained in a day full of interest. The party arrived at its most northern point, Gympie, in the evening.

On the 13th, artificially established forests of hoop pine (*Araucaria cunninghamii*), and southern kauri (*Agathis robusta*) near Imbil in the Mary Valley were examined. To the writer, because of his long acquaintance with New Zealand kauri, this was one of the most interesting days in the whole tour. The history of one compartment of hoop pine seen was as follows:

1931 Planted at 9 ft. x 8 ft. spacing using tubed stock.

1937 Pruning commenced and completed to a height of 26 ft. in 1943.

1938 Unmerchantable thinning designed to ensure dominance of pruned stems reduced the stand to 400 trees per acre.

1945 First merchantable thinning reducing stand to 270 trees per acre.

1957 Second merchantable thinning in progress.

Predominant height at this age was 87 ft.

The history of a compartment of southern kauri, planted in 1937 to a stocking of 570 trees per acre, showed a survival of 486 to the first thinning stage in 1957. This was a merchantable thinning reducing the stand to 370 trees per acre of a predominant height of 68 ft. The self-pruning habit of the species gave an average clear stem of 33 ft. with a maximum of 43 ft.

The sawn product of merchantable thinnings from these hoop pine and southern kauri stands, on display in whole tree units in stands visited, gave an indication of the high quality material available. Conversion of thinnings such as the above was seen at Hyne and Sons Mill, Imbil, which impressed delegates with its simplicity and efficiency.

In the writer's opinion soils available for growing hoop pine and southern kauri were of better texture, depth, and fertility than those available for their New Zealand counterpart.

The return journey from Gympie to Brisbane was made on the 14th September.

Australian Capital Territory

The party left Brisbane by air for Canberra on the 15th for the remainder of the Australian part of the Conference programme.

On the 21st and 22nd field trips were made by bus to Stromlo and Green Hills exotic forests near Canberra, and to the more distant Uriara exotic forest in the catchment of the Cotter River, and the eucalypt forests on the Brindabella Mts. In the former were seen the effects of actual and induced droughts, and of thinning intensities. In the latter were seen the 1939 clone plantings of *Pinus radiata*. These demonstrated the great inherent variations occurring in the species, variations in rate of growth, in form, and in straightness of stem, of branching habit and fruiting. Also seen were two arboreta of exotic coniferous species, one at 2,500 ft. elevation, the other at 4,050 ft. elevation and great extremes of climate. Exotic forests in the Territory amount to some 20,000 acres, with planting still continuing.

Conference commenced its movement from Canberra by air to Sydney and to Auckland, New Zealand, on the 26th September. It is not intended to include the New Zealand tour programme in this account.

General Impressions

At a Conference such as this, full of new scenes almost daily, new experiences, and new associations, it is difficult to single out impres-

sions of particular significance. Perhaps the following can be said to be the major ones:

(i) The Conference:

Congenial company, community of interest, stimulating argument and debate almost twenty-four hours a day, seven days a week for two months, and the development of a more critical approach to one's own forest problems.

(ii) Australia:

Its immensity, its appearance of great age (geologically and topographically), its small population and the concentration of that population into a few major urban areas.

(iii) Australian forests:

Their diversity and the way in which the impact of fire has been written into their origin and development; of the exotic forests, surprise at their extent and potential.

(iv) Canberra School of Forestry:

A high regard for its product and for its potential, formed through observation during the Conference tour programme of the constructive work its graduates were doing in the field.

(v) Hospitality:

Entertainment, both formal and informal, was of a very high order indeed. Perhaps the luncheon halts, catered for by the Country Women's Divisions during the tour programme were most appreciated, although ten days in residence at Forestry House, Canberra, with forty other delegates will always rate pride of place in the writer's mind.

(vi) Opening of the Conference at Canberra:

Most impressive of all were the concluding remarks of the Governor-General of Australia, Field-Marshal Sir William Slim:

"You have one great advantage, I think, in this age when everybody is in such a hurry to get somewhere—although they do not know where they are going and are not at all sure what they are going to do when they get there—you foresters are men with a sense of history, a sense of continuity, and you build for the future, and that is a very nice and a very useful and a most admirable service in this present day. Here in Australia we particularly want that because, although we do not always recognise it, we ought to be building for the future. Who will be able to build better for the future than the man who plants a tree?"