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EDITORIAL NOTES.

Empire Forestry Conference, 1947.—The highlight of the year from the forester's viewpoint has undoubtedly been the Fifth British Empire Forestry Conference held in the United Kingdom from the 16th June to the 19th July. Owing to the war no Conference had been held since that in South Africa in 1935, to which New Zealand, to her discredit, declined to send a delegation. The recent Conference consisted of 71 delegates, 38 associate delegates and one honorary delegate representative of all parts of the British Commonwealth and Empire; also, as guests, the Director of the United States Forests Products Laboratory, Wisconsin, and two officers of the Division of Forestry and Forest Products of the Food and Agricultural Organization of the United Nations. New Zealand was represented by Mr. A. R. Entrican, Director of Forestry, and Mr. A. D. McKinnon, Assistant Conservator of Forests. It is hoped to hold the next Conference in 1952 in either India or Canada.

There were substantial difficulties in convening such a conference so soon after the cessation of hostilities in a country strained to the utmost by six years of war. That such difficulties were so successfully overcome is a happy augury for Empire forestry.

These conferences play an important part in the collection of information, the presentation and discussion of developments in all fields of forestry, and the development of co-ordinated forest policies throughout Empire countries. But perhaps even more important is the stimulus of personal contact and exchange of ideas among so widely representative and experienced an assemblage of the forestry profession.

An account of the Conference will be found elsewhere in this journal.

Professional Forestry Education.—Foresters must view with disappointment and alarm the continued failure of the Government and the University to reach finality on the establishment of a professional forestry school in New Zealand. All will agree that shortage

of qualified staff is an important factor limiting the sound development of forestry in this country, and there would appear to be no valid grounds for the postponement of a decision on an issue which has been under consideration for several years. Moreover, any further delay will do a grave injustice to students who have been studying for a science degree preparatory to post-graduate work in forestry at a school, which they have been led to believe would be functioning when they graduated.

Of the Forest Service trainees, 6 were expected to graduate B.Sc. at the end of 1947 ; in 1948 there will probably be a further 11 trainee graduates, as well as several ex-servicemen bursars sponsored by the Forest Service. In fairness to those now graduating, the Forest Service will no doubt consider immediate scholarships for post-graduate study at overseas forestry schools, but it is imperative that a school should be established in New Zealand at the earliest possible date, which is now 1949.

Differences of opinion still exist on the relative merits of a post-graduate school associated with the State Forests and Forest Experiment Station at Rotorua and an undergraduate school attached to a University College. As we go to press there are newspaper reports that the Academic Board has advised the University Senate to re-establish an undergraduate school at one of the University Colleges. Before accepting or rejecting this recommendation the Senate is said to be seeking further advice, both in New Zealand and abroad. In reaching a decision we hope those upon whom the final decision rests will give due consideration to the opinions of the recent Empire Forestry Conference, based as they are on a very considerable body of experience from all countries in the Empire. The question of forestry training was deliberated with the result that the Conference favoured post-graduate training in forestry of those with a degree in science, and stressed that the field of recruitment should be as wide as possible and allow for the selection of students by intrinsic merit in advance of their qualifications in technical forestry. It also recommended that "the essential post-selection training shall be on a probationer or scholarship basis in the case of men who are so qualified at the time of selection as to be eligible in all respects for professional employment other than in forestry, where this is necessary to attract men of the required calibre."

As far as we know at present, the University has not approached the New Zealand Institute of Foresters. It will be regrettable if the views of a representative professional society are not considered, particularly as a committee was set up at the last Annual General Meeting to examine the question of professional forestry education in New Zealand with the object of enabling the Institute's policy to be defined. The Institute would not be justified in lending support to any proposal which did not provide for staff and facilities of a high standard, and for control by a body approved by the University and not subject to direct departmental influence.

Indigenous Forest Management.—There has long been an urgent need in New Zealand for a comprehensive and scientific stock-taking of the country's indigenous timber resources. The intelligent management of the forest estate, as of any other type of resource, is wholly dependent on the existence of accurate knowledge concerning its extent: New Zealand's administration of its indigenous forests has suffered in the past from a lack of just such knowledge. The National Forest Survey, described in last year's issue of the Journal, is a thorough if belated attempt to make good the deficiency.

The main objective of the Forest Survey is a volume estimate of the available merchantable forests. The detailed information provided should form the basis, not only for long-term planning on the national scale, but also for specific forest administration at the lower regional levels. It should make possible a planned use of the remaining merchantable forest area, and indicate how quickly the country's timber economy must change, in the main from indigenous to exotic forests. In this respect it should also provide quantitative data to show how much the present dwindling supply can be eked out by the greater use of secondary and less valuable species. Most important of all, it should produce reliable information on the exact distribution of those forest areas large enough to be put under sustained yield management and provide the preliminary quantitative data necessary for such work.

The objectives of the Survey, however, are not concerned merely with recording quantitative estimates; they also embrace a comprehensive qualitative assessment of conditions at present existing in the forest itself. The qualitative survey is basically ecological and aims, rather ambitiously, "to amass all the salient ecological data essential for the conservation and wise management of all classes of forest land." The limitations of such an extensive ecological survey must, however, be realised. As is pointed out elsewhere in this issue, a primary survey is concerned mainly with recording the distribution of forest types and indicating the extent and nature of the problems involved. It may even go further and provide working hypotheses and tentative successional theories. It will not in itself solve the problems of forest management. This can only be done by more intensive investigation, the nature of which will have been suggested by the results of the primary survey. Such investigations must obviously be related to those forest associations or forest types which the primary survey has shown to be ecologically and silviculturally similar. They must not attempt to deal with such problems as "beech silviculture" or "podocarp management" and consider them capable of solution. No progress will be made as long as these terms and the mental attitudes which underlie them are allowed to persist. In this respect it is encouraging to note in the last Annual Report of the Director of Forestry that "Indigenous Management and Silviculture" are discussed separately for kahikatea, matai, totara, rimu and other forests. This is the first official indication that the diversity of the ecological problems is recognised.

There still remains a great deal to be done in the way of primary survey and secondary investigation before the sound management of indigenous forests can be commenced. Meanwhile the volumetric results of the Forest Survey are showing that the remaining areas of potentially manageable virgin forest are pitifully small.

The sawmilling industry is now rapidly moving into these. By the time the problems of rimu silviculture and management have been solved, there will be little virgin forest left to manage. The departmental logging operations in State Forests are "management schemes" only in the wider sense that the cut is being rationed, that planned and reasonably permanent forest communities are being brought into existence, and that, in some instances, continuity of yield is being aimed at by the planting of exotics on the logged forest or on adjacent non-forest land. However desirable these steps may be, and however great an improvement they are on past operations, it cannot be said that they represent sustained yield management of indigenous forests. A more honest term would be "planned exploitation." The inescapable fact must be faced that foresters have not yet found the answers to the problem of inducing adequate rimu regeneration following logging. It is possible, in the North Island particularly, that the problem is incapable of solution, but this has yet to be proved. It would seem that the only way out of the present dilemma of dwindling rimu stands with no satisfactory management technique would be to lock up all potentially manageable areas until the results of the primary survey and the various secondary investigations are complete. Such a step would inevitably result in a drastic curtailment of current timber production and it is most unlikely that the public, who are the ultimate owners of the forests, would be prepared to countenance it. From the long term point of view of the forester, it is the only justifiable policy.

It may well prove, however, that dense rimu stands represent the forest type least amenable to silvicultural treatment, and that the future of indigenous forest management lies in other directions. Certainly the prospects of sustained yield management of kauri and some types of beech forest are, technically, much more hopeful; and the beech forests still occupy extensive areas. There exists also a very large area of debilitated podocarp forest, partially or completely cut over. It may prove possible to bring a considerable proportion of this area back into production, even though the composition of the second crop is changed from the present major podocarps to hardwoods or occasionally minor softwoods. On some areas young forests already exist, particularly of such species as rewarewa and tanekaha, both of which are potentially valuable. On others the present cover is kamahi and manuka, and although these species are intrinsically worthless, on occasions they are highly desirable as nurse trees. For the most part, however, the secondary growth consists of quite valueless shrub and low hardwood species, and the development of anything like a forest crop is continually inhibited by grazing animals

and recurrent fires. Given protection from further interference, even this last category must ultimately come back to a high forest. An urgent need in New Zealand to-day is the provision of a team of trained forest ecologists, tackling these and similar successional problems one by one. Only by this method will a sound basis be laid for the future management of indigenous forests.

Forest Experiment Station.—During the year the Forest Service has taken a major step in the organization of its investigational activities in setting up a Forest Experiment Station at Rotorua. The development of this station, which will be closely associated with the existing Training Centre and proposed Forestry School, will be gradual as accommodation and laboratory facilities are at present limited. The immediate activities are directed more towards the examination and co-ordination of experimental work already being carried out in the Conservancies than the initiation of new research projects, although this aspect is also receiving some attention. Initial steps have been directed towards the critical examination of all sample plots and experimental areas with a view to determining their present and future usefulness, ensuring uniformity of procedure, continuity of work and proper dissemination of results.

Projects being undertaken at the Forest Experiment Station include testing the accuracy and applicability of existing volume tables and the formulâtion of new tables where necessary; designing the most effective method of assessment of exotic forests; studying the formation of heartwood in *Pinus radiata*; investigating the possibilities of vegetative propagation of conifers under nursery conditions; formation of a forest herbarium and arboretum; routine testing of tree seed and study of the cotyledon and seedling characteristics of indigenous trees and shrubs; mycological and entomological work including a study of the pathology of the genus *Nothofagus* and an enumeration of all insects and fungi occurring in exotic forests; an ecological study of the invasion of indigenous shrub and tree species into exotic stands; and the direction and collation of phenological observations already being made throughout the country.

The National Forest Survey now becomes a project of the Experiment Station. When adequate laboratory facilities can be provided all research in forest products will also come within its scope.

Forest and Rural Fires Act, 1947.—The passage of this measure during the last parliamentary session marks an attempt to introduce universal rural fire control in New Zealand. Superseding the provisions of the Forests Act, 1921-22, and the Land Act, 1924, relating to fire districts, the new Act provides for Fire Authorities covering all rural lands. In the case of State Forests the authority remains the Commissioner of State Forests acting through the State Forest Service; in Soil Conservation Districts, at present few, it is the Soil Conservation and Rivers Control Council. There is provision for the

establishment of rural fire districts in which the authority is a rural fire committee representative of owners of property protected and other persons affected. Elsewhere than in the areas already mentioned, the County Council is required to carry out the functions of a fire authority.

The duties and powers of a fire authority are comprehensive, and many of the provisions, particularly the financial ones, appear to present considerable administrative difficulties. Administration of the Act devolves on the Commissioner of State Forests, and in the case of emergencies over-riding powers are vested in the State Forest Service.

It is not yet apparent to what extent the numerous fire authorities, particularly the counties, will attempt to set up their own fire organizations, and how far they will go under the provision for joint action or for the delegation of functions to Catchment Boards or to joint committees.

The establishment of fire control over the countryside at large cannot be simple. There is a legitimate use of fire as an instrument of land development and it is only to be expected that so complicated a piece of machinery as this Act provides will develop flaws and require adjustment before smooth and effective operation is obtained. The onus of developing an efficient organization rests mainly on the State Forest Service, but the good will of all concerned with the management of land will be necessary.

FAO, Division of Forestry and Forest Products.—Sir John Boyd Orr, Director General of the Food and Agricultural Organization of the United Nations, has pointed out that, just as the world's diverse lands and peoples do inevitably form one world, so it is becoming clear that the world's forest areas are in reality one forest. Events in Europe make themselves felt in the forests of Siberia and of North and South America; and repercussions extend as far as New Zealand.

If FAO were to attain its declared objective of raising living standards, bringing about more efficient production and distribution of all food and agricultural products, bettering conditions of rural populations, and so contributing toward an expanding world economy, it was evident that it could not ignore the field of forestry and forest products.

On the initiative of a Norwegian delegate, the Interim Commission set up by the United Nations Conference at Hot Springs in 1943 decided that a permanent forestry organization should be established. The proposal was elaborated by a Technical Committee of this Commission and, in 1945, by a committee of the first FAO Conference at Quebec. M. Leloup was appointed Director of the Forestry and Forest Products Division and a small technical staff drawn widely from among the 48 member nations is being built up. The organization is assisted by advisory committees, both central and within the member nations.

While the Division of Forestry and Forest Products is still largely in the developmental stage, it has already sponsored conferences on forest statistics at Washington and Rome, and during 1947 an international timber conference in Czechoslovakia. The former were primarily concerned with an assessment of the forest resources of the world and the preparation of periodic statements on production, stocks, consumption and trade in forest products. The latter dealt with the urgent and longer-term problems of European timber supply. The Division has also undertaken the publication of an international review of forestry and forest products entitled *Unasylva*.

The forestry activities of the *International Institute of Agriculture* at Rome and the associated *Centre Internationale de Silviculture* have been taken over; also the functions of the *Comite Internationale du Bois*. Whether the more specialized *International Union of Forest Research Organizations* will also be absorbed has not yet been decided.

Foresters of the British Commonwealth and Empire are aware of the valuable part played by the periodic Empire Forestry Conferences and by such bodies as the Imperial Forestry Bureau. Is it too much to hope that this new international organization will perform similar functions in advising member Governments on matters of forest policy and in the collection and dissemination of information in the wider international field?