

TE KURA NGAHERE.

1929.

A Forestry Journal Issued by the Forestry Club of the Canterbury
College School of Forestry, Christchurch, New Zealand.

Subscription, 2/6 per annum, single copies 2/6.

Vol. II No. 4.

December 1929.

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TE KURA NGAHERE.

Te Kura Ngahere is published annually, usually in December, by the Forestry Club of the Canterbury College School of Forestry. It is intended primarily as a record of the activities of the Forestry Club, and as a medium of publication for research work carried out at the School. It is, however, open to receive from any source contributions on forestry topics. Comment and criticism on any article appearing in this journal is welcomed, and will be published in following issue, together with any reply the writer of the original article may care to make. Three copies of issue will be supplied free to all contributors of original articles of length greater than one page. Separates will be supplied at cost if ordered prior to publication.

Control of Te Kura Ngahere lies in the hands of the Editorial Committee of the Forestry Club. Editorial comments are those of the committee, pro. tem., and do not necessarily represent the official views of the School of Forestry.

Subscriptions are payable in advance, and may be addressed either to the Hon. Treasurer Forestry Club, c/o School of Forestry, or to the Registrar, Canterbury College. Overseas subscribers are recommended to use the latter address.

Editorial.

THE THIRD EMPIRE FORESTRY CONFERENCE.

It is now just over a year since this Dominion was honoured with the presence of about 50 foresters in conference representing all parts of the British Empire. Before coming to New Zealand the delegates had already toured Australia; their itinerary and conference sessions were followed with interest, and Dominion foresters eagerly awaited their arrival on these shores. Still greater interest was shown in their New Zealand tour which, although short, enabled them to get a comprehensive survey of Dominion forestry.

An outstanding feature of the tour consisted in the opportunity afforded Dominion foresters to meet the overseas delegates and discuss matters of mutual interest. The New Zealand delegates numbered about twenty and were fully representative of the Dominion's forestry activities, and the majority were privileged to accompany the visitors on their New Zealand itinerary.

This third conference of British foresters will long persist in the memory of their New Zealand colleagues, and it is to be hoped that much benefit will ultimately accrue to the Dominion's forestry as a result of this association with forestry experts from all parts of the Empire. It is a difficult matter to give what may be called "impressions of the Conference," but there were a number of outstanding features that appealed.

One fact that must have been patent to all is the obviously well-organised condition of forestry throughout the British Empire. No matter what the status of the British Empire unit, whether Dominion or Crown Colony, it has its State forestry organisation. The title of the organisation varies—State Forest Service, Forestry Department, Forestry Commission—it matters little; these are live units, carrying on work of Imperial importance. In each Imperial unit the organisation of the forest authority varies and the individual variation of each is correlated with the requirements of the country concerned. Association with the various representatives brought out reasons for the type of administration involved in each case and made clear the various local problems besetting the forest officers overseas. A perusal of the volume of papers presented and

of the handbooks and statements prepared by each Empire unit gives a clear idea of the extensive organisation of forestry throughout the Empire—an organisation of which all British enthusiasts may well be proud.

As a corollary to the above one cannot but be impressed by the pioneering spirit displayed by the forest officers in far-off lands—in what may be termed "Outposts of Empire." One may be more or less familiar with forestry in Great Britain, in Canada, in India and in Australia; but when it comes to considering forestry problems, say, in Tanganyika, in British Honduras, and Borneo, when one considers the local problems involved, problems totally different from those of orthodox European forestry, one develops an appreciation of the work carried out in these tropical countries by British foresters.

Another outstanding impression is a full appreciation of the wide scope of modern forestry. To the man in the street, forestry means merely the production of a plantation and its harvesting; the wide scope and ramifications of the whole industry does not come within his view. The delegates included dendrologists, silviculturists, entomologists, experts in forest management and protection, and utilisation; association with these foresters, each an expert in his particular branch, must have been of inestimable value to New Zealanders. The economic aspect also was stressed; representatives of the Empire Marketing Board, and various trade representatives were included and their presence lent weight to the economic aspect of the Conference.

Silviculture in its most refined form is practised in Europe, and some of the leading British silviculturists were among the delegates. It is true that systems of silviculture are still awaiting development in New Zealand; much, of course, has been done in the way of initiating this branch of forestry, and many forest nurseries and well established plantations bear testimony to the efficiency of the work already done. But the real work—the scientific handling of the growth stands has but commenced and here is afforded great scope for the trained forester well versed in the art of silviculture. The visiting silviculturists viewed our forests of exotic and indigenous trees with expert eyes and most interesting and helpful discussion ensued. The intricate problems presented by our native forests, podocarp, kauri and beech, called for much questioning, and the suggestions given and the parallel cases quoted by exponents of tropical silviculture should certainly be inspiring to those of us grappling at first hand with silvicultural problems in our indigenous forests.

The forests of exotics, too, came in for much comment and friendly criticism; delegates were enthusiastic over this stand and that, and suggestions and advice as to silvicultural treatment were immediately forthcoming. It is sincerely to be hoped that a new era in the Dominion's

forestry is now initiated—an era of the scientific silvicultural treatment of all forest areas.

Lastly, mention must be made of the manner in which the Conference stressed forestry education. A special education committee of the Conference had been set up and held meetings and discussed with local delegates the system of forestry education in the Dominion. It is satisfactory to note that the scope of work prescribed by statute for the degree of B.For.Sc. was considered efficient by the committee. One or two suggestions were made but no radical change in the syllabus was proposed. The Commission as a whole expressed surprise at the fact that two Schools of Forestry should exist in the Dominion. The general feeling was that where possible concentration should be aimed at and the education committee was unanimous in recommending the establishment of one Dominion School of Forestry. This matter is still under consideration by the Government and it is hoped that a decision as to the location of the Dominion School will be made as soon as possible.

The next British Empire Forestry Conference will probably be held in South Africa and we are sure that this Conference will mean to New Zealanders something more than a name and that its sessions and reports will be followed with renewed interest.

THE CONTROL OF WILD LIFE.

Considerable attention has been paid recently in the public press, at farmers' meetings, and Acclimatisation Societies' discussions, to the problem presented by the deer. Much has been said on both sides, and on both sides there has been evidenced sweeping assertion, palpable exaggeration, unproved theory, and lack of definite knowledge. At the same time, the wide interest being taken in the subject shows that in certain quarters at least, the shoe is really pinching. The mere mention of the word "opossums" in sporting or conservation circles is provocative of argument all too frequently ending in heated vapourings, because here again definite knowledge is lacking. In the case of the rabbit, there is no argument. The definite knowledge has been gained by a sad experience whose cost to New Zealand can never be totalled up.

From out of the welter of controversy it emerges that we are not harmonious in our national attitude toward the wild life now present in this Dominion. It would seem, too, that the present discordance is largely the result of changing ideas in regard to land use. In the main the wild animal acclimatisations were made with the intent to furnish sport for that section of the community leisured enough and wealthy enough to take advantage of the opportunity. Persons so situated and so minded banded themselves into Acclimatisation Societies, and

under Government sanction, imported such animals and game birds as seemed to promise "good shooting" and turned them loose to subsist upon the unoccupied Crown lands of the country. The Societies sold licenses, conducted ballots for blocks, employed rangers, prosecuted poachers, attended to culling, and so on. In other words, the ownership of the animals virtually rested in the Societies, but the animals were fed and sheltered, rent-free, upon the Crown lands. Such free pasturage was permitted, seemingly, because public opinion considered that if land could not be profitably occupied for grazing, then it had no economic value to the community, and might as well as not support deer, elk, moose, or any other animal which the Societies might wish to liberate.

Recently, however, a change has developed in the general attitude of the public toward the unoccupied Crown lands. Quite apart from the fact that an increasing proportion of the population is unable to enjoy the chase, and that an even larger proportion now hold it abhorrent that brute beasts be deliberately stalked and killed to no human end save vanity and the gratification of instincts rather cruel and ungentlemanly, it is now being recognised that the Crown lands of New Zealand, unsuited though they be for settlement, have a much higher use than that of sustaining the deer herds of the various Societies. This recognition is embodied in the various State Forests Acts, but particularly in that of 1921-22, wherein a State Forest Service was set up to administer the State Forests of New Zealand (consisting of lands unsuited for settlement) so as to supply the timber needs of the country, and to ensure to it all the benefits of stream-flow control, prevention of erosion, and other advantages provided by the forest. It is generally agreed that to provide for future timber supplies, a considerable expansion of our sadly-diminished forest area is urgently needed. It is also receiving more general acceptance that the forest cover in mountainous regions is essential for its protection values in regulating the run-off, etc. It is being recognised, moreover, that much of New Zealand's heavy annual loss from flooding of her rivers is due directly to the past and recent destruction of large areas of forest cover in the high country, and the opinion has been widely voiced that the only permanent cure for this flooding evil is a large extension of the forest cover. Dedication of forest lands in the mountain watersheds was commenced early in Canterbury's history, but beyond the mere proclamation of the areas as State Forests, nothing was done. The conservation movement following on the Great War brought about a great extension of the State Forests, and saw an administrative service set up to develop the forests to their fullest extent, as a part of the national economy.

In this work, it has become evident that the presence of large herds of herbivorous animals in a land free of all carnivores, is becoming inimical to the forest, particularly to the protective or waterflow control values. The forest authority, holding very rightly, since so charged by Statute, that the best interest of the forest is the guiding line of action, naturally wishes to see the wild animal inhabitants either removed or brought under the complete control of the forest authority. The conflict of interest is obvious, since the State Forests are now almost the only lands open to the Acclimatisation Societies. If the deer are excluded from the forests, then deer-stalking in New Zealand is at an end.

Considerable sympathy can be felt for the Societies, for they have spent their money freely in importations, breeding, culling, opening up tracts of back-country, and so on, and it is hard now to be told that their deer are to be exterminated, their opossum activities curtailed, and the gates of the State Forests closed against them. At the same time it is patent that within the bounds of the State Forests the forest authority must be supreme. There is no room for divided control. The welfare of the forest is vitally affected by the composition and intensity of the wild life that may inhabit it, and all control of this wild life must be directed, not from the standpoint of the revenue from licenses, the sport enjoyed by a few of our citizens and fewer wealthy visitors, or the profits in opossum skins, but mandatorily from the standpoint of the best development of the forests. If the welfare of the forest is furthered by removal or reduction of animal life, then no outside interest or authority may stand between the forest authority and the removal or reduction indicated.

It is possible that full investigation will show that certain animals in strictly limited numbers may be endured in our own forests without damage. Strict limitation, rather than total extermination, may prove feasible. It is sincerely hoped so, for animal life would add greatly to the recreation values of our forests, even for those whose shooting is done only with the friendly camera, rather than the rifle, while the economic aspect of such by-products of the forest as opossum skins is by no means to be overlooked. These matters can not be decided until the facts are definitely known as to their effect on the forest.

It must be recognised, however, that all future policy in regard to the control of wild life in the forests must be enunciated, not by the Societies, but by the Forest authority. The forest policy of New Zealand has in general the support of the whole community, many of its most whole-hearted supporters

being members of the various Societies. It may be expected that in that true sporting spirit which animates most, they will cheerfully accept the fact that the waste lands of the Crown are now needed for a higher purpose, and will agree to give up their vested rights and special privileges so long enjoyed rent free, in the interests of the nation as a whole.

RESEARCH.

Elsewhere in this number we publish the paper entitled "Our Work," read before the N.Z. Institute of Foresters by the President, Mr. Arnold Hansson. The dominant note struck in Mr. Hansson's paper is the importance of and the need for forestry research. He states: "No progress can be made in any work without continual research." Again: "The field where we as technical men can make the surest mark and lead the way in the advance of forestry is in research work."

These statements are not new; they have been made over and over again by workers in every field of endeavour. Workers in pure science, in medicine and surgery, in the manufacturing arts, in the primary industries, have echoed and re-echoed the cry for research. It is satisfactory to note that research workers have not been entirely lacking in any field, but their numbers in many fields are still inadequate, and in forestry we feel we must call for more workers if our operations are to be put on a sound basis.

Every effect has its cause and it is worth while trying to discover why insufficient research workers offer in the forestry field. Mr. Hansson suggests that "often—very often—we are mentally lazy and prefer to think with our memory—that is, we would rather remember how someone else did a certain thing than reason out a better way for our own specific problems." This likewise is true in all fields but there may be some excuse for its special application in forestry. The field of forestry differs vastly from most other lines of work; the forester must wait long before he can see tangible results. In chemistry and in physics the result is immediate. In agriculture the result may come in one or in a few years time. In horticulture a few years may see the completion of many experiments. But in certain branches of forestry such as silviculture the time limit is indefinite; a lifetime occasionally may be insufficient. Foresters in a young country like New Zealand are anxious "to get on with the job," and it may be expedient to adopt a tried and proved method rather than to experiment with a new one. But by this we do not mean to condone the lack of research. Let us adopt the sure old method by all means, but why not initiate at the same time a series of new methods on a small experimental scale? We do not advocate wholesale change of plan, which, if the results are negative, might be truly disastrous. What we

do advocate, however, and especially in silviculture, are experimental methods on a small scale to cope with the country's local problems, which Mr. Hansson states "must be solved by its own foresters and according to the conditions prevailing in the particular localities."

It is indeed a prime necessity in New Zealand that research in every branch of forestry be urgently prosecuted. We do not call for huge experiments; no investigation can be considered too humble. What is wanted is the spirit of research throughout the Dominion, and to bring this about it is essential that all forest officers should be fully in sympathy with research and what it stands for. Research in local forestry problems should be considered an essential part of the administration in every region and not merely the special work of research officers who are not constantly in touch with local conditions.

This brings up another point which possibly may be construed as another "excuse" for the lack of copious research. Again we fall back on the desire of forest officers to "get on with the job" with all hands fully employed thereon. The implication is that there is no time for research. There is much to be said on behalf of the overworked forest officer, but we regret that we must be inexorable and reiterate the cry for research—research, however humble. Given sympathy and encouragement from senior officers the research spirit would spring into being. We do not wish to be too idealistic over research; we do not plead for the type of research worker idealised by Dr. Lotsy during his visit some years ago when he outlined him as one who forgot about everything, even his meals and his sleep, when he was engaged in research. We plead only for common-sense investigation by sensible men; as Mr. Hansson states, "Research is only common-sense intelligently applied to the finding of the cause of the effect."

It is not to be implied by what has just been stated that forestry research is entirely neglected in New Zealand. The State Forest Service has organised and carried out research projects in many branches of forestry, and it is as an integral unit in this scheme of research that the Canterbury School of Forestry has done a considerable amount of work as stated elsewhere in these pages.

The latest development in forestry research is the establishment of a Forest Biological Research Station in Nelson. The ultimate scope of the work of this station may be left to the imagination, and its inauguration marks a distinct advance in New Zealand forestry. The initial work of this station will be the handling of problems in forest entomology and later on mycological problems will be attached. When in time the whole scope of animal and plant-life of the New Zealand forest is under investigation, the value of this station will be inestimable. Let us hope, therefore, that every encouragement will be given it to prosecute its research in the true spirit.

THE INSTITUTE OF FORESTERS.

With formal incorporation under the Incorporated Societies' Act, the formative stage of the New Zealand Institute of Foresters has culminated in successful fruition, and from now on, it may be expected that this body will make that full contribution to the advancement of the profession which was the ultimate goal inspiring those who have persevered in the face of considerable discouragement in the past five years.

Over a year has passed since organization was first completed, and the Institute held its second Annual General Meeting last May, when the machinery was overhauled in the light of a year's working, and a number of changes in scope and procedure adopted. It is believed that the constitution as finally adopted at that meeting will now work smoothly and effectively without material modification for many years. How valuable and extensive a contribution it will make to the profession will now be seen. Much has been expected of the Institute, and considerable disappointment has been expressed that so far its tangible results have been so little. Yet there is room for considerable confidence, and perhaps the disappointment expressed arose from an expectation that it was physically impossible to fulfil. The greatest disability under which the Institute must labour is that of the physical limitations of time and space. With members so widely scattered over New Zealand, a maximum of correspondence (leading to delay and misunderstanding), and a minimum of personal contact (making for clarity, action, and enthusiasm) was utterly unavoidable, and it is a testimony to the enthusiasm of those sponsoring the movement that in spite of disheartening delays, and lack of personal contact, the movement has actually been successfully launched. There is no doubt, however, that this obstacle is a very real one, and it is quite conceivable that it might very seriously interfere with the usefulness of the Institute. Particular importance attaches, therefore, to two of the amendments adopted at the recent general meeting—those dealing with provision for local sections, and for the publication of professional papers and transactions.

It is only by the dissemination of knowledge in common problems, by the active encouragement of research, and the imparting of mutual enthusiasm and interest that the Institute can be of real value to the profession.

Our President is quite right when he says, in his presidential paper (appearing elsewhere in this issue of "Te Kura Ngahere"), that "the field where we as technical men can lead the way in the advance of forestry is in research. "But the individual working alone, without knowledge of what has been done elsewhere on the same or similar problems, loses much time in duplicated effort, and all too frequently loses enthusiasm. If these things are not forthcoming, then the organisation means nothing, except for petty self-glorification perhaps. The publication of professional papers, transactions, etc., will, however, make for the general dissemination of knowledge such as we have all too little of in New Zealand at the present time.

Ultimately, no doubt, the Institute will publish an organ of its own. Until that time publication can be secured through the medium of other scientific journals, but it is hoped that the fact that publication can be secured, under the aegis of the Institute, and that the papers will reach all interested, and provoke them to contribute in their turn to any point of interest, will lead to a great stimulation in the flow of papers from the pens of New Zealand's foresters. Our past inarticulateness can be satisfactorily explained. Future silence might indicate faulty training, lack of interest or aptitude in our chosen profession, or faulty organisation preventing any opportunity for reflection, mature consideration, or original work.

It is to the local sections, however, that most is looked for, as the value of personal contact is so very great. Local sections should, in the words of one of the members, become the very life blood of the Institute. Owing to our limited numbers, it is as yet impossible to take full advantage of the provision. The most that many members can do is to look forward to the day when every Regional Office of the State Forest Service shall furnish the nucleus in a small but enthusiastic group of keen practical workers, to whose professional conclaves all within reach engaged in private and communal forestry shall be warmly welcomed. That day is somewhat distant still, but it is already possible to organise local sections at Wellington, and at the University professional school centres. It is to be hoped that the members at these centres may soon take advantage of this new provision in the Constitution, recognising in it a challenge to themselves to take their full share in making the Institute a living, breathing reality.