THE FOREST DEPARTMENT OF PRICE BROTHERS.

Read by R.H. Nisbet at the Annual Meeting, 1925.

Before reading this paper Mr. Nisbet paid splendid tribute to Sir William Price, the chief builder and, for so many years, the guiding hand of the firm which bears his name, in whose lamented death the country has lost one of its most ardent supporters of forest conservation.

The earliest activities of the Forest Department of our Company were directed towards replanting or sowing burned over areas. Though these activities were largely of an experimental nature, it was soon decided that these were not the lines along which foresters could be profitably employed and our attention was thereafter turned towards management of areas already stocked and under operation.

The initial step towards management was to supply ourselves with suitable maps of which we were sadly lacking, and to take stock of our holdings. Survey and cruising were started - the work at first being confined to areas which had suffered from the attack of the budworm. Some year or so later the Provincial Government issued a pamphlet of instructions on the method to be adopted for inventories. This method was

followed by us, and since that date we have worked in close touch with the Provincial Forest Department in all our cruises. About 4000 miles have been completed and the work will continue until the whole of our limits in the Saguenay and Lake St. John regions have been finished.

In the course of this work we have had the benefit of expert advice from such well-known people as Dr. Faull of Toronto; Dr. Swaine of the Entomological Branch, Ottawa; Dr. Craighead, now unfortunately no longer of the same Branch; Mr. McCallum of the Department of Agriculture and Mr. Hiley of Oxford. All these gentlemen have been of great assistance in giving us advice on problems with which we were not sufficiently acquainted, and their work supplemented by the work of our own staff, has led us to a clearer understanding of the problems with which we have to deal.

Our Forestry Staff, in co-operation with our Logging Division, and acting under the control of the Chief of the Government Fire Protection Service, also are responsible for the control and administration of our Fire Protection Organization. The Organization has proved itself efficient but there is no doubt that it can and will be further developed.

In addition to this routine work we have been active in other directions. A certain amount of educational work within and without the firm has been undertaken.

Also a certain amount of experimental work consisting principally of the establishment of sample plots and fellings intended to throw light on cutting methods, sample plots designed to give figures for increment, and yet others to give an indication of the rate of mortality in balsam resulting from the budworm attack. An important series of experiments in driving paper birch were conducted and are being continued with. We have also investigated and assembled interesting data on log scales and methods of measurement.

In all this work we have had the good fortune to enjoy the co-operation and assistance of the Provincial Forest Service, and, in one case, the direction and help of the Federal Service.

This concludes a brief summary of our activities to date.

We now come to the question of management - the subject of which you wish to hear. To make the position clear I should state that the most part of what I have already said, and most of what follows, refers only to those areas which may be termed our "pulpwood forests". The areas operated for sawn lumber have not been placed under management, nor can they be until the important questions of tenure, classification and forest reserves have been finally settled.

After the completion of our first cruise, which was conducted over an area which had already been operated for many years, it was found that if an appreciable

quantity of the timber which had been killed or injured by budworm was to be utilized, salvage operations must be started and carried on intensively. The good offices of the Provincial Forest Service were sought and, in co-operation and consultation with it, these operations were commenced in the stands most affected, that is to say, in mature and over-mature stands where balsam predominated. These operations have continued steadily. During the next couple of years we may see the end of the timber which was killed during the peak of the attack and which has now been wind-thrown or wind-broken, with the result that it is fast becoming too far advanced in decay to pay for the cost of extraction. Salvage operations are, however, likely to continue; less badly damaged timber being operated as the worst becomes exhausted. I have no doubt that it will be possible to write a working plan on these lines which our Logging Division can follow and which will have the support and approval of the Provincial Service. This working plan is now in the course of preparation.

The procedure which has been followed in deciding on cutting areas and the method to be adopted in the forest under discussion has been for the Company's foresters, after discussion with our Logging Division, to supply the Provincial Service with all data relative to the area we wish to cut over. A joint examination is made of the site by the Company's District Forester and the Government Officer concerned. The Company's request is

examined and discussed, when, if the request is considered justifiable, the Government Officer reports to that effect and formal approval is issued by Order-in-Council. It is a pleasure to record that no disagreement of any moment has been encountered in these negotiations and that the procedure has proved so far a satisfactory and expeditious method of deciding these problems.

The method has, however, certain disadvantages: although it has never occurred, owing perhaps to some extent to the fact already stated, that the operations take the character of salvage, in certain circumstances this procedure might prevent the continuity of the operations of the Logging Division and thereby render them impossible or unprofitable owing to the state and situation of existing camps, roads, river improvements and etc.

Operations must be planned for some time ahead - we think not less than ten years, especially if economic considerations are to be given their due weight. A decision given annually is not compatible with operational plans for long terms.

The area over which we will operate in future is becoming too vast to permit the small staff at our disposal and perhaps that at the disposal of our friend, Mr. Piche, to cover the whole ground in detail each year, in time for the Logging Division to make adequate preparations.

In order that the provisions of the cutting

plan in force may be faithfully adhered to, close supervision has been found essential. For this purpose the district Forester has under him a staff of inspectors, largely recruited from the Fire Protection Staff. This course has the very great advantage of permitting us to give permanent employment to our most efficient Fire Rangers. One man is allotted to each 5,000,000 feet and his duty is to make regular inspections of and reports on the quality of fellings. In addition he collects data which is most valuable to the Logging Division in controlling and checking the work of the shanties, the state of deliveries, the length of haul, the number of men employed, the production per man day, wages, etc. This data is reported fortnightly upon a form designed for the purpose, so that at the end of the season the Logging Manager has a complete and detailed history of the progress of each contract and of the capacity of the jobber and his men.

In addition to the Inspectors of felling, each river or operational unit has a Chief Inspector whose duty is to supervise and direct the work of the former.

The expansion of the manufacturing plants of the Company and our policy of reducing the cut to the possibility of the forest, have made it necessary that we extend the area over which we operate. Two additional establishments, each with a forest area of about 1,000 to 1,200 square miles, are being opened up. These forests have been cruised and the foresters in charge of them are

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now, in consultation with our Logging Division, writing working plans. The ultimate object of these plans, to which it is hoped gradually to work, will be to cut the possibility of the forests, insofar as their abnormal condition permits this to be calculated from time to time. Logging will be conducted in the most scientific and economic manner possible, and subject to all these considerations we shall endeavour to deliver wood which represents wood of the average cost contained in the area operated. If and in proportion as the cut is reduced in these forests in accordance with considerations of sustained working, the areas under operation will naturally have to be extended by the opening up of new ground; such fresh areas lie ready to hand, and the successful prosecution of this policy would result in all the Company's timberlands tributary to the Saguenay and Lake St. John being brought under the system of sustained yield management. In the meantime, and until such plans can be put into operation, overmature timber is being cut, the amount of the cut being governed by mill requirements, but present estimates of annual yield also being taken into consideration.

The control and supervision in the new establishments is similar to that already discussed, and is now either active or will be put in force as the operations develop and occasion demands.

Since the Officers of the Provincial Service have been in touch with the work of cruising and have been

consulted during the course of the preparation of our working plans, I have every confidence that these plans will be approved and that they will receive the sanction of the Government.

This perhaps too brief account of our activities, may lead to the conclusion that an attempt to operate forests on the basis of sustained yield is a comparatively simple undertaking and that it should not be difficult to persuade the executives of companies to adopt this wise course. I can assure you that it is not easy, that it is in fact most difficult from whatever angle the problem be considered. Assume that the silvicultural provisions of any working plan are agreeable both to the Logging people and the Government Service concerned, and that it is certain that the plan will achieve the result desired, there still remain difficulties precedent to the inauguration of a working plan which may often prove insuperable. Does it pay? Can the Company stand the initial cost? Can it stand the additional cost of wood brought about by dispersing the operations over very large areas rather than concentrating them on smaller ones? And, most important of all, has the Company sufficient forests to permit cutting only the increment? (Apart, that is, from all the technical difficulties connected with the calculation of the increment in such highly "abnormal" forests.) The answer to these questions will often be in the negative. What then can be done? Frankly, I do not

know.

Other important considerations which affect us in the Province of Quebec are security of tenure and Forest Reserves. In some regions these considerations alone are sufficient to render any working plan based on fundamental principles of very doubtful wisdom if not altogether impossible.

Although outside the scope of my subject, I would like before closing to refer briefly to our Provincial Policy in connection with forests. I think it will be conceded by many that the Province of Quebec carries the banner for its progressive Forest Policy. Our Government, prompted no doubt by its Forest Service, is conscious of its responsibility for the protection and conservation of its forests. Our Forest Service is always willing to assist and co-operate with the limit holders in overcoming difficulties and in taking a generous view when department regulations sometimes make logging operations impracticable or impossible. But there are one or two phases of the Provincial Policy which the Government must consider and readjust if its policy is to achieve that success which will assure that our forests will provide for the requirements of the Province in perpetuity.

Briefly, what we need is security of tenure,

a workable and sound system of land classification and the institution of state forest reserves. Until these questions are dealt with there can be no stability in our wood industries or in the forests on which they depend.

Another problem of immediate moment which affects cruising work, working plans, experimental work, and the therefore cost of the wood used by operators and limit holders, is the present system whereby the limit holder has to bear the whole of the cost entailed by whatever work he does in those directions. Our Forest Service will give us help and advice but our Government has not yet agreed to contribute towards the expense the limit holders incur, so that it is perhaps not unfair to say that the limit holders alone pay for whatever constructive work is done in forestry. And the same may be said of Fire Protection. You will understand better how this deters the limit holder from adopting more progressive methods when it is remembered that he can cut his limits in accordance with the diameter limit without reference to the Government and without incurring the expense of the salaries of foresters, without intensive cruising and without working plans or expensive experimental work. I think the time is fast approaching when our Government will realize the weakness of this course when it is hoped it will alter its ways and contribute its share towards the expenses incurred by these limit holders who voluntarily adopt the system of sustained yield.