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VICTORIA.

REPORT

ON THE

STATE FORESTS OF VICTORIA,

PREPARED IN COMPLIANCE WITH THE REQUEST OF THE
HON. R. W. BEST, MINISTER OF LANDS,

BY

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PRESENTED TO BOTH HOUSES OF PARLIAMENT BY HIS EXCELLENCY'S COMMAND.

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Auckland, N.Z.,
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To the Honorable the Minister of Lands, Victoria.

STR,

I have at the outset to convey to you my best thanks for the facilities offered to me by the Victorian Government for visiting the forests of the colony. Mr. George Perrin, the Conservator, accompanied me during my tours, and though I regret that, owing to the want of time on the part of that officer, I could not make as exhaustive an examination of the forest resources of the colony as I should have desired, I have reason to believe that, owing to efficient guidance, I have obtained a sufficiently comprehensive view of the main characteristics of the forests and their treatment to venture an expression of my opinion that you were kind enough to invite.

It would be useless on my part to give a general description of the forests of the colony, as they are sufficiently well known, not merely to the authorities invested with their control, but to a considerable portion of the general public. I gathered this from numerous conversations I had on the subject during my stay in Victoria. I also found that the importance of the forests and their maintenance was generally well understood, and that it was widely acknowledged that the permanent conservation of a sufficient forest area was, and always would be, an important factor in the welfare and prosperity of the colony.

In many countries where education (at the time forest conservancy was under consideration) was less widely spread than in the Australian Colonies, the above facts were frequently not so well understood, nor so generally acknowledged, and it became advisable to convince the public (especially the rural portion), before seriously introducing practical forest conservancy, of the direct and indirect advantages a country derives from the existence of properly-managed forest areas, and in some cases it became necessary to override public opinion for the good of the community.

Happily for the colonies, neither is necessary; the knowledge exists, but in spite of this widely-spread knowledge of the advantages of permanent and effective forest conservancy, yea, even of the necessity thereof, State forest conservancy and management are in an extraordinary backward state, as may be seen from the following facts:—

- (a) The forest laws of the country are inadequate; nevertheless they contain some important practical points which might be applied with considerable advantage if such was the serious intention of the Government. They have, however, been allowed to lie fallow, and have sometimes even been superseded by contradictory and mischievous circulars and orders.
- (b) The area of inalienable State forests has not been increased since Mr. Vincent's report of 1887 was written.
- (c) No doubt additions have been made to the area of the timber reserves, but other forests of this kind were again thrown open, thus proving the inadequacy of permanent conservancy.
- (d) The protection of the forests against fires has never even been attempted, and neglect and waste in their treatment are now as rampant as in the days when Mr. Vincent framed his indictment against this management in an able report to His Excellency the Governor, which should be wider known than is the case.
- (e) The income from the forests is ridiculously small, and quite out of proportion to the large supplies drawn from them; and the money spent on their protection, maintenance, and improvement is entirely inadequate.

The reasons for the self-evident mismanagement of the forest property of the country are well known, and were, in fact, first pointed out to me by independent colonials; they are political and centre in the disregard of the general public weal where this clashes with the monetary profits of individuals or classes who can exert a direct Parliamentary influence. The smallness of individual interest raises no special



defenders in the cause of the conservancy of State forest property, and the onus of moving in the right direction rests, to a great extent, on the shoulders of the Government.

If the country will support the Government and remove once for all the management of the State forests out of the whirlpool of party politics, the Victorian forests will doubtless prove now, and even more so in the future, of great benefit and value to the country. Whereas, if the existing system of management is allowed to continue, the reconstruction of the ruined forests will sooner or later become necessary at the cost of enormous sums, which might be more usefully spent than in correcting the effect of mismanagement and neglect on the part of the present generation. Without the support of the country the Government is powerless. It may carry on forest conservancy as an empty shadow, but no real progress can be made so long as it remains the watch-word that the extraction and conversion of forest produce for private benefit is tantamount to an industry by which the national wealth of the country is increased, and that, for this reason, the Government should not merely be satisfied with nominal prices for the material removed, but also suffer without complaint any amount of mismanagement and waste in the extraction of the produce. But so it is at present. "Little Jack Horner" must not be disturbed in his development of the Christmas pie, even if it should otherwise suffer by his method of extracting the plums. The cases are identical; in both instances it is Jack who reaps the sole benefit.

This seems wrong. The forests of a country must be looked upon as a capital left in trust for the whole community, and though it may be quite right to divert a superfluity of the capital into other and probably more profitable channels, a sufficiency of the original investment must be maintained, and of this the interest alone should be consumed.

When a country which lies within the forest zone of the globe, or, in other words, where the necessary degree of humidity and heat exists to favour arbor vegetation, it is, when first occupied and settled, more or less densely covered with forest growth. It is evident that civilization, which in every instance is primarily founded on agriculture, cannot advance without the removal of the forest cover from the greater portion of the surface of the country.

At the outset, when labour and demand are scarce, and when the produce is of comparatively little value, the most wasteful and wholesale destruction by ring-barking and fire takes place, and is, under these circumstances, not only excusable but frequently advisable. It is, however, equally easy of proof, both by historical evidence gathered from all parts of the globe and by the results of modern scientific inquiries, that a certain proportion of a country must be maintained under forest cover in order to secure the permanency of national progress and prosperity. The percentage of forests which it is necessary to maintain varies considerably with local conditions, but the fact remains that it is easier to dis-forest the superfluity of forest lands than to recreate forests where they have been devastated and are found wanting.

It is consequently a matter of great importance that the Government of a new country should make up its mind as early as possible both with regard to the extent of permanent forest reserves and their final situation, that the areas selected should be made inalienable, safe for serious special reasons of State, and that they should be treated for the one purpose of permanent retention under forest cover. This action is certain to pay its way sooner or later even in a direct manner, and the indirect advantages of judicious conservancy are incalculable.

To judge from Mr. Vincent's report, and from conversations I had on the subject, which are supported to some extent by my own personal observations, the opportunity of securing the most advantageously situated and best adapted forest areas has, in many cases, already been missed, and is almost everywhere in the colony of Victoria a question of urgency and importance.

The present forest laws of the country seem to me to be sufficient for the primary selection of the areas required, but they do not adequately protect the forest chosen either from alienation, the growth of adverse rights, or against other interference by men, and I would consider it advisable if the laws were improved in this respect.

It is evident to me that the protective clauses were, even in the latest Bills, never seriously considered, and the fact that the penalty for fraudulently altering the marks on timber (which is an offence tantamount to theft of an aggravated kind) has

been met by a mere trivial fine seems sufficient proof of this assertion. The alteration of a boundary line of a State forest, the firing of a forest, &c., become offences only when the Governor in Council has exercised his powers for making regulations to that effect. On the other hand, mere executive and management rules form integral portions of the existing law, or of the Bills under consideration.

In my opinion, it would be advisable to revise the Bills thoroughly, and, if I might venture to do so, I would suggest the Upper Burmah Forest Regulations as a pattern for the general lines of a Forest Bill. The Upper Burmah Act is the most practical of Indian forest laws, and is, so to say, the outcome of the experience gained during nearly thirty years of forest legislation in the different provinces of the Empire.

It will be understood that I recommend the adoption of the above Act as a pattern only in a very wide sense, as the circumstances, especially those connected with the extraction and transit of forest produce vary enormously.

The whole of Burmah is intersected by water-ways, and the most valuable species of timbers and all bamboos are sufficiently light to float, and thus the creeks and rivers form innumerable export lines for timber in the log and allow the establishment of large central saw-mills near the seat of consumption, which frequently draw their material for conversion from forests many hundreds of miles distant.

In Victoria no water-ways of any importance exist. The most valuable timbers are of high specific gravity, and there are no bamboos by which the heavy logs could be buoyed up. The consequence is that conversion must take place in or near the centres of production. The saw-mill owner can, under such conditions, establish a mill of any importance only where permanency of supply can be guaranteed—a monopoly, so to say, of the forest produce of a certain area. Circumstances render this unavoidable, and the fact must therefore be accepted, but it would seem to me to be a matter more conveniently settled by an executive contract than by rules prescribed on the authority of "His Excellency the Governor," rules that are not likely to fit every individual case.

In my opinion it will be quite sufficient if the enactment gives power to the Government—First, to declare any area belonging to the State a State forest, alienable only under the authority of Parliament. Second, to demarkate such State forests and to prevent within them the springing up of private rights adverse to the State. Third, to provide for the proper protection of such State forests from fire or unbounded interference by men. Fourth, to provide for their systematic management. Fifth, to provide for the protection of forest produce in the forests and in transit. Sixth, to provide for the adequate punishment of persons breaking the forest laws or regulations framed under its provisions.

I hardly think it will be necessary to provide for the protection and management of Government forest property which is not declared State forest, provided the work of constituting such inalienable areas is started at once in the right direction, and proceeded with seriously, energetically, and systematically. If this, however, is considered impossible under existing circumstances, an intermediary protection must be provided. It would be a pity, because this choice of measures leads, but too easily, to delay in the real work of permanent reservation, and tends to create two separate classes of forests, which is most undesirable. The time has hardly as yet arrived when it becomes necessary to provide for the preservation of private or communal forests.

I have pointed out on a previous page that the existing forest law, if seriously and honestly used, would suffice for the creation of State forests, and progress in this respect should in no wise be delayed pending the enactment of a more comprehensive forest law, because a simple clause in the new Act can give legal effect to selections made under former enactments.

When permanent State forests have been created, and have been placed in trust of the Government, it will, in my opinion, be advisable that they should be worked rationally and systematically.

There can be no two opinions that this is quite impossible under the present licence system, which does not allow of such control as it is necessary to exercise, in order to keep the annual or periodical utilization within the possibility of the forest, *i.e.*, within its productive power. To insure that this is being done it will be necessary to frame a pre-considered working plan for each forest unit. Such plan must be based on the conditions of each such unit, and be framed with regard to the main purpose

which the forest is intended to serve, for, to give an example, it would be useless to treat a forest as a high timber forest when mine props are chiefly in demand.

In framing a working plan, both the conditions and the purpose should be shortly recorded in one chapter, and the proposals for the future working should be laid down as concisely as possible in the second.

When the facts are taken into consideration that forest trees take generations to grow to a workable age, and that the forests themselves form a living organism which is constantly producing, growing, and ripening according to fixed laws of nature, and that consequently a constant harvest can be gathered from them, it needs no argument that a plan is necessary which respects such laws of nature, and that any haphazard and irrational utilization will usually result in the ruin of the forests.

In India it has been found advisable, chiefly in order to facilitate control, to stereotype the arrangements of working plants. A résumé of the requirements which, in the whole or in part, will be found suitable for any purpose may be seen in the last edition of the Indian Forest Department Code.

A working plan once framed should be carefully considered by competent authority and formally sanctioned. When this has been done no major deviations should be permitted without an inquiry of at least as searching a character as that on which the original plan was based.

In regard to this, I would again invite reference to the Indian Forest Department Code, the last edition of which contains the outcome of our experience in this respect.

Working plans in India were first introduced and framed by Sir Dietrich Brandis, the real founder of scientific forestry in that Empire. These plans extended mostly over large areas, and served their purpose brilliantly, but they were naturally very general in their scope; too much so to make them of permanent utility. Hereafter we went, owing to the arrival in the country of officers of high theoretical training, through periods of over-elaborated plans which cost too much money and time, and offered difficulties in regard to control. It was only when practice had mellowed our theory that the happy medium was struck.

I have no doubt that the colony might considerably profit from our Indian experience in the preparation of working plans by deputing an officer to work for a year or two with some of the best working plans officers in that country. I perfectly understand that it is quite impossible to introduce working plans all at once over the length and breadth of the Victorian forests. It will take decades or perhaps generations to do so, nor is it necessary that such very rapid progress should be made, for, in many instances, the single word *rest* will comprise the whole of the working scheme, and in comparison with the present population and the present demand, the aggregate forest area of the colony is still very large. The beginning, however, should be made in those forests where an active demand already exists or can easily be created by providing roads and other means of communication.

My visit to the colony has given me many opportunities of observing how necessary permanent working plans are in certain localities, and I may be permitted to give a few of the many instances I have seen.

The State forests between Creswick and Ballarat were years ago thoroughly ruined by entirely uncontrolled fellings on the part of the mining population; trees and poles were cut at all heights from the ground, which prevented the springing up of a healthy coppice, which to a certain extent would have grown on a self-established root system. An unsatisfactory pollard growth infested the ground. The mining industry collapsed, but luckily a limited demand remained for small timber. Mr. Perrin had at this period the well-conceived idea of taking a severe improvement felling through the forests, removing all diseased, badly-grown, and pollard trees. He had to open out the forests to what I should, without colonial experience, have considered a risky degree, more especially on a soil not naturally vigorous. The recuperative power of the eucalyptus, however, in its natural habitat, is something extraordinary, and the results of the operations have been thoroughly satisfactory.

Near the "White Horse," however, we came to several areas through which Mr. Perrin had taken a very radical improvement felling, leaving only the best and most promising stems on the ground. These, it is almost incredible, the miners had appropriated, felled most recklessly, and partly removed under cover of Sir John McIntyre's Miners' Circular, which was shown to me on my expressing doubt as to its existence. I saw a repetition of the same vandalism in the Linton and Scarsdale forests.

Now, nothing would be easier than to frame straight away a rational plan for the working of these forests, and they would pay more than their expenses from the very outset.

On the "Black Spur," at the head waters of the Yea River, I saw selections on which a splendid crop of matured timber had been ring-barked some six or seven years ago, apparently without any fixed purpose beyond securing the land for some future use, for the young forest had been allowed to come up unchecked and already forms impenetrable thickets.

I also visited the Melbourne Water Supply area. It would be difficult to imagine greater desolation than meets the eye in this specially-selected forest, everywhere but in the self-protected moist gullies at a high elevation. The ground is covered with dead trees and other vegetable débris in all stages of decomposition, and other dead and dying trees are ready to replace the fallen giants as fire and rot consumes them. To me it seems inconceivable that this valuable area, nearly 140,000 acres in extent and favorably situated for the Melbourne market, should not be systematically protected and worked. I am convinced that if this forest was put into order and rationally worked, it might eventually be made to yield 100 cubic feet of converted material per acre per annum, and could at the same time be kept under permanent canopy, which is certainly not the case at present.

Near Wandong I visited some forests which serve a couple of saw-mills owned by the Australian Seasoned Timber Company. Here again the work is carried on, so far as the forest is concerned, without any pre-considered plan. The State has no security that the forest will not be over-worked and finally ruined and the company none as regards the permanency of supply.

The present licence system, which permits a scramble for the forest produce so long as it can be found anywhere, is at the bottom of much of the disorder which exists. It must disappear when a regulated utilization of the forest is introduced, but otherwise, when once the possibility of a given forest area has been fixed, and the exploitation has been arranged accordingly, it is a matter of no great consequence as regards forestry in what manner the forest produce is disposed of so long as the possibility is not exceeded.

This question of disposal becomes purely a financial one. The trees may be sold singly or in blocks or compartments at a fixed royalty, or by auction, or they may be given away if the State thinks fit.

A lease for a number of years is especially adapted for saw-mill industry, but a fixed royalty does in such cases frequently not represent the real value of the standing produce. This value is greatly influenced by the situation of the forests, its nearness to the market and other conditions, and a competitive tender with a minimum rate per 100 cubic feet will probably be the best gauge of the actual market value.

I have met no instances myself, but have been credibly informed that many well-established saw-mills had to be abandoned because the supply of timber payed out unexpectedly. This, of course, could not have happened if sufficient area of forest had been set apart for them under a pre-considered plan.

Permanent saw-mills create a constant demand on the forests, and may be relied on to pay a constant and considerable income on their output. Their establishment should consequently be encouraged, not by special or low rates, but by certain security of finding a permanent supply of raw produce within a reasonable distance. This is of much greater importance to the industry than favorable rates.

In my opinion saw-mills should be established only in or near sufficiently large and well-situated forest areas, from which a constant supply may be expected under the provisions of pre-considered and formally-sanctioned working plans, the Government guaranteeing to the owners that such plans shall not be altered or deviated from during the time for which they have been sanctioned without the consent of the interested parties. Government should, however, never guarantee the actual permanency of the supply, as the best-considered working plan may have flaws or may be upset by unforeseen accidents.

It is frequently argued that the forests of the colony are inexhaustible, or will at least meet the demand for hundreds of years to come. It is true that as yet no general scarcity is felt in the timber supply of the country, but it cannot be gainsaid that the redgum forests on the left bank of the Murray have practically disappeared within late years, and that the local demand for timber can in many instances not be so readily met as in former years. At present the fuel markets of Melbourne and

other big towns, and of many agricultural districts, are to a considerable extent supplied from ring-barked trees, the remnants of former forests. I grant that there are enormous supplies of this timber, but it is, after all, dead material, and the wood that has not been consumed within the next twenty years or so will have probably rotted away. When this has happened the living forests will have to meet the whole of the demand which during the same period must have grown considerably. It needs no great foresight to predict that with a growing population even the remote forests will gradually be indented upon and become valuable in their turn.

I have as yet written only of the treatment of the natural forest areas and in this the chief efforts of the State must centre.

Planting on a large scale is costly, and it will be found that if an accurate ledger is kept of the original outlay and all its incidental expenses that artificial forest cultivation will repay the money and time spent on it only under very exceptional circumstances, and it is only in such circumstances that I would recommend the planting of indigenous trees. It is different with regard to the introduction of exotics. There are no light wood trees in Victoria of any value and the cedar of New South Wales, and other trees having similar qualities, are reported to disappear rapidly owing to large demand and uncontrolled working. To what extent the light wood forests of New Zealand are protected is beyond my ken, but under any circumstances it is undoubtedly a step in the right direction to introduce woods into Victoria which have qualities not found in the indigenous timber, for that a demand exists for material of this kind is proved by the large annual imports.

The choice of trees to be introduced should be made with the greatest care and circumspection and, if decided upon, rapidly and systematically pushed. The introduction of oak is excusable only for reasons of sentiment or for the improvement of the landscape, for, as regards the technical qualities of the timber, it is like "carrying coals to Newcastle." The broadcast introduction of *Pinus insignis* has no excuse whatever, for, though it is doubtless one of the fastest growing pines, its wood is of a low character.

I have great sympathy with the plantations which have been established with a view of the broadcast distribution of useful exotic plants, and I have taken steps to secure for them for some time to come an annual supply of seed from India of such trees as I think may be useful. These central plantations have been established by the "Victorian Forest Department," and are worked with great success, upwards of 150,000 trees per annum being distributed free of charge.

I cannot speak too highly of the officers in charge. They are men who have gained their experience in practical work and know their business thoroughly.

I have often been asked my opinion as regards the prospects of an export of timber from the colonies, and I have given considerable thought to the subject, which has been for years in my mind, with reference to our Indian heavy woods. We have in India a considerable number of timbers which do not compare unfavorably with the best of the eucalypti. I need only mention *Fragraea fragrans*, *Shorea robusta*, *Mesua ferea*, *Xylia dolabriformis*, and *Pterocarpus indicus*, but there are many others. We have, however, succeeded only in establishing an export trade in *Pterocarpus indicus*, and that, not on account of its exceptional strength, but for its richness of colour and capacity for taking a high polish. It is used for panelling, parqueting, staircases, &c. In the same way I think an export trade might be established in Australian blackwood. There is, in my opinion, no hope of placing any of the Australian or Indian heavy timbers on the European or American market for purposes of superstructure or ship-building. Their use as paving blocks is all we can expect as regards those which are not sufficiently handsome in design or colour for parquet, veneering, or other decorative purposes. The demand, however, for paving blocks may at any moment assume gigantic proportions.

I cannot conclude this letter without paying a tribute to your eminent scientist, Baron Ferdinand von Mueller, who, as far back as 1871, and probably earlier, recommended the rational treatment of the Victorian forests.

Yours sincerely,

B. RIBBENTROP.