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FOURTH PROGRESS REPORT

OF THE

ROYAL COMMISSION ON STATE FORESTS AND
TIMBER RESERVES.

WOMBAT FOREST:

ITS RESOURCES, MANAGEMENT, AND CONTROL.

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

By Authority:

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WOMBAT FOREST.

PROGRESS REPORT.

*To His Excellency the RIGHT HONORABLE THOMAS, BARON BRASSEY,
Knight Commander of the Most Honorable Order of the Bath;
Governor and Commander-in-Chief in and over the Colony of Victoria
and its Dependencies, &c., &c., &c.*

MAY IT PLEASE YOUR EXCELLENCY—

We, the members of the Royal Commission appointed to investigate the general question of forestry and forest control and management in Victoria, have the honour to present the following Progress Report:—

WOMBAT FOREST.

I.—AREA AND BOUNDARIES.

This reserve (known for many years as the Bullarook Forest) is situated in the counties of Bourke, Grant, Talbot, and Dalhousie. By far the largest area, however, is in the counties of Bourke and Grant, the forest extending along the slopes and foot-hills of the Great Dividing Range from Mount Macedon, on the east, to the neighbourhood of Rocky Lead, a station on the Daylesford and Creswick railway line, on the west. On the northern watershed of the range, owing to continual encroachments on the forest lands in past years in the course of settlement, the areas still reserved are comparatively small, the most important being a tract to the south-west of the township of Woodend, and a block of several thousand acres eastward of Daylesford, known as the Glenlyon reserve. The latter, owing to the alienation of a strip of territory in the parish of Bullarto, is now completely cut off from the main forest.

The contour of Wombat reserve on all sides is exceedingly irregular, natural boundaries having been rarely adopted, while in demarcating the northern limits no care appears to have been taken to keep under forest cover and preserve from risk of pollution the catchment areas of several important streams. Settlement has been permitted not only along the northern watershed, but also on the crest and on the southern slope of the range. In consequence of this, the ownership of part of the upper courses of the Campaspe, Coliban, and Loddon rivers, and also of several tributaries of these streams which rise in the forest, is in private hands. The mistake made in permitting the alienation of any part of the Coliban watershed is the more serious, since this stream is the main source of supply of the Malmsbury reservoir, which provides over 60,000 people in the Bendigo, Castlemaine, and Maldon districts with water.

The importance of protecting a large area of the forest for the growth of timber was recognised as far back as the year 1882, when the western portion, containing 63,000 acres, was permanently reserved. This area was subsequently reduced by a special Act of Parliament passed in 1893, when 11,700 acres were withdrawn from the reserve and subdivided into allotments for agricultural, village, and homestead settlements. At the same time considerable tracts of land bearing excellent young timber in the north-eastern and eastern part of the forest, which was then, and is still, classed as a temporary reserve only, were made available for a

similar purpose.* With the exception of a few small areas of volcanic soil in the neighbourhood of Trentham and Lyonville, the lands thus taken from the forest consisted chiefly of barren schistose ridges and slopes suited to the growth of the hardiest Eucalypts only. Owing to the poor character of the soil generally, and its unfitness for cultivation of any kind, a large number of the allotments were soon abandoned by the holders, such occupiers as were village settlers being removed to lands in other districts at the cost of the State, while many of the blocks were for the same reason never occupied by settlers. From information furnished by the Crown Lands Department it appears that the total area of cancelled allotments in the northern and north-eastern part of the forest is 4,253 acres; that 900 acres have been allotted to village settlers other than those who were originally placed on the land, and that of the lands excised from the village settlements, 600 acres are now held as agricultural allotments under section 42 of the *Land Act* 1890.

The approximate area of land at present classed as a temporary reserve (being the eastern portion of the forest), and of Crown lands adjacent to the reserved areas, withheld from sale or selection, on the north-east, north, north-west, west, south-west, and south is 72,260 acres, situated as follows:—

County of Bourke	...	...	...	61,500 acres.
Grant	...	...	...	1,650 "
Talbot	...	...	...	4,410 "
Dalhousie	...	...	...	4,700 "
				<hr/>
Total	...	...	...	72,260 acres.

The approximate area at present permanently reserved is 51,300 acres, while the approximate area of unreserved land within the boundaries of the original permanent reserve as demarcated in 1882, now available for restoration to the State forest, is 9,682 acres. The total area of forest, including permanent and temporary reserves and ordinary Crown land, is about 133,784 acres.

The proposed new boundaries of the forest are shown on a plan marked W, bearing date the 14th of May, 1897, submitted to the Minister of Lands by the late Surveyor-General and the Inspector of Forests, and, after full investigation, we now recommend that these boundaries be adopted, subject, however, to the inclusion of allotments 11a, 11b, 11c, 11d, and 12 of section 1B, in the parish of Burke, and allotments 3, 4, 9, and 10 of section 11A in the parish of Wombat (542 acres in all).

As we believe that the whole of this important forest should be effectively protected for the growth of timber, as well as for the maintenance of water supply (the part of the Dividing Range within its borders being the source of many streams), we strongly advise that an Order in Council be passed at an early date permanently reserving, under section 10 of the *Land Act* 1890, the several areas mentioned above, which are, at the present time, either temporarily reserved or withheld from occupation. In making this reservation care should be taken to include all unoccupied, forfeited, or cancelled allotments withdrawn from the forest area in the years 1893-4, power to restore such allotments as were excised from the permanently reserved portion being expressly granted under section 120 of the *Land Act* 1893.

II.—TIMBER SUPPLIES.

Taking the trees in the order of natural distribution, the principal kinds found in the forest are the messmate (*E. obliqua*), the peppermint (*E. piperita*), the white gum (*E. viminalis*), the common stringybark (*E. macrorrhynca*), the swamp gum (*E. Gunnii*), and the grey or spotted gum (*E. goniocalyx*). The dominant tree, which has made the forest known throughout the colony for the excellence of its timber, is the messmate. Saw-millers with long experience in the district state that immense supplies of straight clean-stemmed trees of this kind, attaining a height of 40 to 80 feet to the first branch and from 3 to 6 feet in diameter, were obtainable for many years after the forest was opened, and even to-day solitary trees of the older growth which approach the maximum sizes mentioned are occasionally seen in the deeper gorges. For a period of over 40 years Wombat reserves have been the main source of supply for sawn hardwood and fencing material to the Melbourne, Ballarat, Castlemaine, and Bendigo districts; and for a considerable, though shorter, period for laths,

* Altogether 20,679 acres were taken from these reserves, chiefly for the settlements mentioned, the growing timber on 7,266 acres of the land allotted to village settlements being destroyed.

slabs, and mining props, to all the chief gold-field towns in the central district. From 1852 up to the year 1897 it is estimated that timber to the value of seven millions sterling had been taken out of it. Some twenty years ago the annual output of sawn timber alone was over 60,000,000 superficial feet, but in 1896 this yield had dwindled to 7,000,000 feet. The output for last year shows further signs of shrinkage, being only 4,450,000, and this includes several hundred thousand feet cut from logs obtained on private lands. Only eight mills are now established within or on the borders of the forest, and their yearly output ranges from 300,000 to 850,000 feet. None of them work up to the full power of the milling plant employed, the actual cutting season being from five to nine months in the year. All the present indications point to the early exhaustion of Wombat as a milling and splitting forest, and the enormous waste of young timber for many years, due to the uncontrolled system of splitting throughout the reserve, a waste which has continued with little interruption up to the present time, has largely contributed to the present scarcity of mature trees. The timber of all kinds (except firewood) conveyed over the railways from the reserves during the year 1897-8 was 32,400 tons, but nearly two-thirds of this quantity consisted of split and round props, together with laths and slabs, for the mines. In the transportation of timber the forest is chiefly served by the Carlsruhe and Creswick Railway, which runs along the table land on the northern side of the Dividing Range, but considerable quantities of sawn and split material, cut in the southern, eastern, and north-eastern portions, are loaded at Ballan, Gisborne, and Woodend respectively. The quantity of timber and firewood loaded at the several stations, and the freight revenue obtained, during the period 1st July, 1897 to 31st December, 1898, is shown in the following table:—

STATION.	TIMBER.				FIREWOOD.			
	Year 1897-8.		July to December, 1898.		Year 1897-8.		July to December, 1898.	
	Tons.	Revenue.	Tons.	Revenue.	Tons.	Revenue.	Tons.	Revenue.
<i>Carlsruhe—Creswick Line—</i>		£		£		£		£
Fern Hill ...	3,644	1,138	1,779	578	320	67	—	—
Trentham ...	6,900	1,729	3,520	785	1,034	157	2,311	560
Lyonville ...	1,537	389	262	76	12,740	1,861	3,629	519
Bullarto ...	2,948	585	834	161	7,718	1,349	2,543	401
Musk Creek ...	301	41	154	22	5,754	957	1,945	314
Daylesford ...	6,746	860	2,271	351	—	—	—	—
Woodburn ...	—	—	—	—	2,135	296	504	71
Sailor's Falls ...	—	—	—	—	8,835	1,289	3,492	516
Leonard's Hill ...	1,382	153	729	81	10,068	1,310	2,676	365
Wombat ...	—	—	—	—	8,897	1,133	2,163	272
Rocky Lead ...	—	—	272	27	1,907	215	1,076	122
<i>Melbourne—Ballarat Line—</i>								
Ballan ...	6,225	936	4,105	658	253	35	804	99
Wallace ...	—	—	—	—	158	16	325	141
<i>Main Line—</i>								
Gisborne ...	858	177	561	116	125	21	18	4
Woodend ...	1,906	471	875	209	—	—	12	3
	32,447	6,479	15,362	3,064	59,444	8,706	21,998	3,387

III.—MANAGEMENT.

The present condition of Wombat Reserve, aptly described as a "ruined forest" by several witnesses in the timber trade who have had experience of its resources in the past, is the result of the mismanagement and neglect of the past 30 years. The enormous destruction of young timber, allowed to be cut without any regular plan or method to insure reproduction, the clearing of mature trees in the face, and the ring-barking of extensive tracts (now alienated) on the northern watershed of the range by selectors, were brought under the notice of successive Governments by Mr. W. E. Ivey, in a report on Ballarook, made in 1874, by Messrs. James Lyon and J. H. Wheeler, M.L.A., in evidence given before the Vegetable Products Commission, in 1887, and by Mr. Vincent, of the Indian Forests Staff, in a special

report addressed to the Minister of Lands in the same year, but their representations had no substantial result in securing the proper protection of the forest. For a long period saw-millers, splitters, and prop-cutters were permitted to range at will over the reserves, to take trees which suited their purpose irrespective of size or age, to fell and leave unused large numbers of trees in order to keep their rivals from some coveted belt, or to block their jinker and waggon tracks; to kill hundreds of trees by stripping off the bark for rough buildings and sheds; and to fell for sleepers, palings, and laths large trunks from which frequently only one length was taken. At this time it was a common ground of complaint with the large saw-millers that any person could get a licence for a small portable mill in the immediate neighbourhood of the plant already established; that there was no limit to the number of splitters' licences issued; that the splitters felled useful milling trees right up to the mill sites; and that there was no encouragement to preserve immature trees, because if they allowed such timber to stand untouched it was quickly felled by the splitters. A slight check on the cutting of young timber was at length effected by fixing a felling diameter limit of 18 inches, and when the present Conservator took charge of the reserves this was subsequently increased to 2 feet. With the exception of imposing this restriction, and bringing the western and a part of the northern forest under royalty, but little has been achieved by the authorities in checking the waste and destruction of young timber. It is only fair to state, however, that the Conservator labours under the great disadvantage of having no statutory power to enforce strict control by limiting the number of licences, cancelling the permits of offenders, and stopping ordinary cutting or splitting on areas from which the mature timber has been removed. When to this is added the fact that the supervision in the northern and southern parts of the forest is exceedingly lax, the cause of the liberties taken by some of the timber-getters is at once apparent. The worst offenders at the present time are the lath-splitters, who—despite the fact that the forest is nearly denuded of trees suitable for their purpose—still cling to the reserves in large numbers, and in defiance of the regulations fell young timber considerably under the legal diameter of 2 feet. So well is the inferiority of the timber they now cut recognised by the mining companies in the central district, that laths from Wombat Forest fetch 2s. per 100 less than similar material from reserves such as Toolangi and Otway. The system of issuing licences for this forest is the same as was in force twenty years ago. Any splitter can go to a district revenue office, and on paying 10s. get a permit to cut in any part of the forest, except the royalty areas, for three months. The revenue officer does not know whether mature timber is available or not; the Conservator or the local forester is not consulted in any way, and the latter does not know until he gets lists from the Treasury, which are often furnished at irregular intervals, who is entitled to cut timber under such licences in the reserve. It is not to be wondered at that there has been immense destruction and waste of good timber under such an extraordinary system. The wonder should rather be at the productiveness of the forest which under such treatment has lasted so long.

Supervision.

The forest is at present divided into three districts, with a forester in charge of each. One resides at Daylesford, on the north-west of the reserve, one at Trentham, at about the centre, but outside of the northern boundary, and the third on the Ballan-Daylesford road, in the parish of Korweinguboora. To assist the forester in charge of the western division, part of which has for some time past been worked under the royalty system, a foreman is employed, who also lives outside the forest boundary, at Rocky Lead.

The cost of supervision for the year 1898 was £720, of this sum £548 being for wages, and £172 for horse allowance and petty expenses. Owing to no separate account being kept in the Lands Department of the receipts from fixed timber and occupation licences, we have been unable to ascertain the total revenue obtained from the forest during the same year, but from information supplied to us by the eight saw-mill licensees it appears that the fees paid by them amounted to £384, while from returns (incomplete) furnished by the local foresters, we find that there are at least 61 splitters' and 82 fuel licences in force. The revenue from these would be about £200. Taking into consideration the areas, 12,500 acres in all, under royalty, and the small amount received from residence and grazing licences, it is fair to assume that the total receipts do not cover the cost of the present inadequate supervision.

Royalty.

In arriving at the conclusion that it is necessary in order to insure proper control over timber-cutting in the forest, that it should be worked in future under the royalty system, we are influenced by the fact that the reserve has been badly over-cut for many years past, with the result that large areas are now covered with saplings and brushwood only. The saw-millers admit that they find great difficulty in getting supplies of logs of the standard size (2 feet in diameter), and they have in many cases to transport such logs out of deep and almost inaccessible gorges at a considerable distance from their mills. Both splitters and mill-fellers, failing in the endeavour to find mature trees, too often have recourse to undersized timber, and in the northern and southern parts of the reserve at the present time the stumps of scores of recently felled trees, 15 to 20 inches in diameter, which have been cut chiefly for laths and split props, may be seen. While we are satisfied that additional as well as better supervision is necessary, we do not consider that this alone would sufficiently protect this valuable State property if the existing lax licensing system were allowed to remain in force. At present lath and prop splitting by unlicensed persons is a frequent occurrence in the northern part of the reserve, the timber-stealers having merely to watch the movements of the local forester, and cut and remove material while he is absent on bailiff's duties or engaged in another part of the forest. Even when one of these offenders is caught and summoned before a bench of justices, the fine inflicted, usually 2s. 6d. or 5s., is so light that it does not prevent him from repeating the offence whenever opportunity offers. The time has long since passed away when belts of young trees could be allowed to be cut in the face in the reserve for any purpose, and the condition of the forest as it is now should be clearly recognised. To temporize or delay in providing efficient safeguards for the protection of the young timber will simply result in the gradual destruction of Wombat as a high forest, and its conversion into a tract of stunted brush timber, useful only for firewood and small mining props.

By adopting the royalty system, providing on the permits stringent conditions for the felling of marked and mature trees only, and for the immediate suspension or cancellation of the permits for any gross breach of the conditions, the existing defective methods of controlling timber-cutting will be materially improved; while, as regards the present output of laths (legally and illegally cut) which cannot, having regard to the proper protection of the forest, be allowed to continue, splitters' permits for this class of timber should be reduced to such number as the Conservator and the Inspectors of Forests, after careful examination of the supplies of suitable trees now available in the whole reserve, may consider reasonable. Although 61 splitters' licences, the fee for which is 10s. a quarter, are still in force, during the past two years many men, recognising that in the present condition of the forest they cannot honestly adhere to the rule which fixes the diameter limit at 2 feet and make a livelihood, have removed to the reserves in the Toolangi and Otway districts. In view of the fact that the eight mills now at work in this reserve employ 150 men, that supplies of mature free-grained trees are rapidly failing, and that the mills can utilize material which the splitters cannot profitably touch, we are of opinion that the time is fast approaching when every reasonable inducement should be offered to the latter class of timber-getters to take up their occupation in new and unexhausted forests such as those mentioned above.

IV.—FUTURE MANAGEMENT.

Supervision.

The present plan of dividing the forest into three districts, and placing a forester in charge of each, who is directly responsible to the Conservator, though subject to periodical visits of an inspector, works very badly. The supervision in the northern and southern parts of the forest is exceedingly lax, cutting without licences and cutting undersized timber being prevalent. In the western division part of the reserve is worked under the royalty system, and the forester there has a foreman to assist him in carrying out his duties. For these reasons the control of timber-cutting is much better than in the other two divisions.

With the view of securing stricter supervision, as well as a uniform system of patrol, we recommend the immediate appointment (or transfer) of an experienced and intelligent forester-in-charge, who should be a man of active habits. He should be held responsible for the proper supervision of the whole reserve, and for the efficient discharge of their duties by the subordinate foresters and assistant foresters. There

being much more splitting and prop-cutting in the northern than in the southern division, the staff should be without delay strengthened by the appointment of an assistant forester, who should be chosen for his knowledge of the forest and the district immediately surrounding it.

The practice of allowing three of the forest officers to live in townships at some distance from the scene of their duties is not calculated to secure watchful and efficient supervision, and we consider that early steps should be taken to provide them with quarters at some suitable place within the areas allotted to them. The forester-in-charge should also be stationed at a fairly central point, to prevent unnecessary travelling in making frequent visits to all parts of the reserve.

At present the foresters are liable to be called away at short notice to make valuations or inquiries in connexion with the settlement of Crown lands. The officer in charge of the northern division, in giving evidence, has stated that such duties sometimes occupy ten days in the month, and take him 16 to 18 miles from the forest. Such a system of leaving the reserve without protection must be held partly accountable for the theft and waste of timber in this division; and hence we are of opinion that the staff attached to this forest should be relieved of all ordinary bailiffs' duties and confined strictly to their forest work.

Forest training and the practical education of the staff is a question of great importance, but it cannot properly be dealt with here, and must be deferred for examination in our general report. In the meantime we may point out that the situation of Wombat Forest, in the immediate neighbourhood of Macedon State Nursery, to which it is the custom to send students from time to time for instruction in plantation work, offers exceptional advantages for the practical training of pupil foresters. We think that in future the time now devoted to elementary instruction in plantation and nursery work should be curtailed; that trainees should be kept at the nursery for a term of three to six months only (according to their proficiency), and that they should then be sent out into the forest to do duty under the supervision of the regular staff there, care being taken to give them constant instruction and practice in the measurement of timber, the assessment of royalty, and the rules which govern improvement fellings, as well as in ordinary patrol work.

Royalty.

The royalty rates which we have decided to recommend, after careful examination of the conditions affecting timber-cutting in the reserve, are as follows. The rates for round mining props now in force in the western portion of the forest should be reduced, in accordance with the new scale, from the 1st of August* :—

Timber—	Rate
	s. d.
Sawn timber, per 100 super. feet	0 8
Mining laths, 4ft. or 4ft. 6in. x 6in. x 1in., per 100	0 5
Mining slabs, 6ft. x 8in. x 2in. to 3in., per 100	1 6
Mining props, round, 4 to 6 feet—	
6-in. diameter, per 100 running feet	0 6
8-in. " " " " " " " "	1 6
10-in. " " " " " " " "	2 6
12-in. " " " " " " " "	6 0
Mining props, split, 4ft., 4ft. 6in., and 6ft. x 6in. or 8in. x 6in., per 100 running feet	1s. 6d. to 2 6
Fencing posts, per 100	3 0
Fencing rails, " " " " " " " "	5 0
Beams, piles, &c., first 20 feet, 2s. (each additional foot, 1d.)	
Fuel—	
Green wood, split or cut in lengths and stacked, per ton measurement	0 4
Deadwood billets, split and stacked, per ton measurement	0 1
Longwood (débris lying on ground)—	
1 horse load	0 3
2 " " " " " " " "	0 6
Any larger load	1 0
Charcoal, per bag	0 0½

These rates should take effect, in the case of saw-mill timber, on the 1st of September next (before which date we expect to be in a position to deal with the question of royalty for mills in other districts), and in the case of all other timber and firewood, on the 1st of August next. In the meantime arrangements should be made with the Treasury to prevent the issue of any *new* fellers' or splitters' licences from

* The present rates are as follows :—6 inch, 9d.; 8 inch, 1s. 9d.; 10 inch, 3s.; 12 inch, 5s. per 100 running feet.

the date of publication of this Report. Renewals of the few fellers' licences now in force which may require to be taken out before 1st September should be made subject to their surrender and exchange for royalty permits on that date. Renewals of existing splitters' licences before 1st August should likewise be made subject to their surrender, and the acceptance of permits on the date fixed for the commencement of royalty. Any unexpired term covered by the licences issued to both classes of timber-getters should, of course, be allowed for in assessing the first royalty.

With respect to saw-mills, all existing fellers', jinker, and tramway licences will be abolished on the adoption of royalty. The only additional payment to the State where no special cutting area is granted should be a fee of 10s. per month, or £6 per annum, for the mill site. As it is desirable that the settlement of mill employes on land outside the mill site should be discouraged, we recommend that the area of such sites be increased from 3 to 5 acres, which will afford ample space for the milling plant, cottages, and stables. In any case where a saw-miller desires to obtain the sole right to cut timber on a given block, we recommend that he be allowed to do so on payment of the rate for special areas now in force in Barmah and Gunbower Forests, viz., 10s. per 100 acres per month, the maximum area which may be so held being fixed at 640 acres.

With regard to royalty generally, any written contract entered into by a duly licensed timber-getter for the supply of timber or firewood at a fixed rate from the forest should be recognised, and the contractor allowed to complete at the present licence rates the supply of the material covenanted for in his agreement, provided that the contract has been entered into before the date of publication of this Report; and provided further that the time of its expiration shall be not more than six months from the same date.

Improvement Fellings and Fire Protection.

In the south-western part of the forest the Conservator has carried out with marked success a series of improvement fellings over an area of about 1,000 acres, which, together with the clearing of inflammable undergrowth and litter, has been of great advantage to the growth of the young trees, and, at the same time, reduced the risk of damage by fire. The warm sheltered valleys of the western and northern parts of the reserve were noted, when it was a comparatively open forest, for the large size of the trees and their quickness of growth. The schistose ridges and foothills of the Dividing Range produced, it is said, timber of better quality, harder and denser in the grain, but much slower in attaining maturity. At the present day the former open forest of large trees has been replaced by dense belts of saplings overcrowding and hindering each other's growth. If left in their natural condition there can be no doubt that the next crop of mature timber will be produced very slowly indeed in the more open areas, while in the thickets nothing can be expected but stunted poles and props. The mesquite in the climate and soil of Wombat Forest appears to attain its greatest development, the girth increase being upwards of an inch annually. When the heartwood begins to harden or lignify, the growth becomes slower, but persons with long experience of the reserve state that trees about 2 feet in diameter may be looked for in from 30 to 40 years.

With the view of quickening the growth of the extensive belts of valuable young timber in the western and north-western parts of the reserve, we strongly recommend that careful improvement fellings, under the supervision of the Inspector or Assistant Inspector of Forests, be undertaken without delay in the areas specified below, and that at the same time the undergrowth and useless debris be roughly cleared and burnt before the dry season sets in. Apart from the improved growth resulting from judicious thinning out, we find that wherever the clumps of young timber are thickest the saplings are becoming badly infested with grubs, while the more open areas are almost free from this destructive pest. We think also that where jinker and waggon tracks are not available for the purpose, fire-breaks should be made at intervals through the cleared and uncleared forest to check the spread of fires. In advising the clearing up of useless debris we, of course, do not include the trunks of felled trees, immense numbers of which encumber the ground, but are being gradually cut up and removed by fuel-getters for the supply of towns in the central mining district. The quantity of firewood loaded at the four railway sidings on the western side of the reserve during the year 1897-8 exceeded 29,000 tons. Much of this dead timber is at present inaccessible to carters owing to the dense growth of the young trees, and the improvement felling and clearing will therefore open to them very large

supplies. As regards the young trees removed in the course of the thinning-out operations, all material useful for props, poles, or firewood should be disposed of by the Conservator to the best advantage at royalty rates. The following are the areas which we recommend shall be thinned-out and cleared of useless debris:—

	Acres (estimated).
In Korweinguboora (S.W. part of forest)	8,000
Between the main road from Daylesford to Creswick and the Daylesford-Creswick railway (N.W. part of forest)	5,000
Section 111A, N.E. of Leonard's Hill	800
In parishes of Glenlyon, Bullarto, and Coliban (northern part of forest)	7,500
Between Blakeville and the Upper Werribee	2,000
Total	23,300

Burnt Timber.

In several parts of the forest extensive damage to young timber has been caused by fires, the last serious outbreak having occurred during the unusually severe summer of 1898. The principal areas thus injured or destroyed are situated between the Lerderderg and the Blackwood-road; on the ridges and slopes between Blackwood and Blakeville; in the south-western part near Bolwarra; and in the portion east of the Daylesford-Ballan road. Altogether over 26,000 acres have been damaged, some 12,500 acres being badly burnt. The belts of saplings in which the fires have been most destructive show a thick lateral leaf-growth almost hiding the stems, while the tops being killed, a new leader or branch is thrown out, near the joint of which decay sets in, the pipe of dry rot gradually affecting the entire stem. As considerable areas of this young timber are of the proper size for mining props, and within easy distance of the Daylesford to Creswick railway, while they will quickly deteriorate if allowed to stand as they are, we consider that inducements should be offered to timber-getters to remove them without delay at half royalty rates.

Forest Receipts, Expenditure, and Out-turn.

It is obvious that there cannot be systematic management without a proper record of the receipts, expenditure, and timber output of the most important reserves. A knowledge of the receipts in detail is necessary, not only because they indicate the most profitable kinds of timber yielded in a given district, but also because the information thus obtained is, in conjunction with the market price of the timber, a useful basis for properly assessing or revising royalty charges, the forest policy in a colony such as this being not so much to obtain a large net revenue from the reserves as to fix such moderate rates as will cover the cost of effective supervision. On the other hand, it cannot be expected that a continuous supply of useful commercial timber can be insured in a forest such as Wombat unless it is managed on a careful working plan, and an accurate account is kept of the annual output of the several classes of timber and fuel. With the permanent reservation of the whole area, and the establishment of royalty, the present system of crediting part of the receipts to Crown lands and part to Forest revenues will cease, and thenceforward complete records should be kept without difficulty. It has been no easy task to arrive at even a rough estimate of the revenue and output of timber for the past year, and, in order that such information may be available in future, we recommend that the following records be kept from the 1st of July next, and published in the annual reports of the Conservator:—

- (a) A separate account, under the several heads specified, of all revenue from and expenditure on the forest, showing the receipts from saw-mills, mining timber, fencing material, firewood, grazing, and residence or occupation licences; and the expenditure for wages, horse allowance, forest improvement, fire protection, and any other service.
- (b) An account of the annual output of saw-mill, mining, and fencing timber, firewood, and any other produce; and a record of the number of permits issued for each class of timber specified; with the number of mill site, residence, grazing, or other occupation licences issued.

Working plan of Forest.

We have experienced considerable difficulty in ascertaining with any degree of exactness the present condition of the forest as a whole, the extent and age of the useful timber, the tenure and privileges of occupiers of land in the reserve, and the

growth of adverse possession involved in the seizure of land by trespassers. In order that there may be in future an accurate record of the forest and its resources, for use in its working and management, we recommend the early survey of the reserve into blocks of 640 to 1,000 acres (the area of each block to be determined by the size of the belts of good timber therein, and the configuration of the land); and the preparation of a general working plan showing the kinds of timber, and its prevailing character, *i.e.*, whether saplings, semi-mature, approaching maturity, or mature; the foresters' districts and head-quarters; and the situation of all mill sites, residence depôts, allotments held under annual licence, and alienated land. The survey of the forest into blocks is a matter of great importance, as by this means the forest officers will be in a much better position to regulate the quantity of timber which can safely be taken out from each area, and to gradually establish in blocks where the trees are of fairly equal growth, a rotation of cutting at such intervals as will insure a continuous supply.

V.—WATER SUPPLY.

If there is one thing which is clearly established by experience in the history of forest conservancy, it is that thickly-wooded tracts exercise a very important function in regulating and maintaining the flow of springs and streams. Meteorologists may differ as to the influence which forests exercise on the rainfall of a country, some holding that it is not forests *per se*, but their situation in elevated or mountainous regions which attracts clouds and causes the precipitation of moisture in the form of rain; others contending that while currents of moist air are undoubtedly attracted by mountains and hills, the precipitation of rain is usually much greater in forest-clad regions than in treeless or comparatively open country. On the other hand, there is no difference of opinion as to the salutary influence of forests in the distribution of rainfall, in preserving by their leaf cover and undergrowth the soil beneath in a sufficiently porous condition to absorb and gradually distribute the water in the form of springs and small streams, thus preventing sudden freshets and torrents.

The portion of the northern watershed of the Dividing Range which is within Wombat Forest is the source of the Campaspe, Coliban, and Loddon rivers, of Kangaroo, Leitches, and Wombat creeks, and of a number of smaller streams which are tributaries of these. From the southern slopes of the range flow Gisborne and Goodman's creeks, the Lerderberg, Werribee, and Eastern Moorabool rivers, and a number of feeders of these streams. In the early part of this Report, in alluding to the alienation of river lands on the northern watershed, we called attention to the occupation by settlers of part of the catchment area of the River Coliban, which supplies the Malmsbury Reservoir. While the forest land on the left bank of this stream, which was made available for settlement in 1894, is nearly all occupied, the portion on the right bank has not been encroached on, and can therefore now be restored to the reserve. As one of the most important objects of forest conservation is the protection of water supply, we need hardly say that the catchment areas of all important streams (and especially of those which supply towns or other considerable centres of population with water) should be jealously guarded from settlement, and kept under forest cover. When, however, such areas are within a State forest, or by their situation naturally belong to a State forest, it is a questionable policy to surrender the right of direct control over them for an indefinite period.

In the western part of this reserve, in the parish of Korweinguboora, there is an area of 562 acres, which many years ago was subdivided into allotments, but afterwards temporarily reserved from sale in connexion with the scheme for increasing the water supply of Geelong by utilizing the eastern branch of the River Moorabool.* Again, near the north-western boundary of the reserve, there is a tract of valuable forest, containing 1,031 acres, which has been permanently reserved for water supply purposes, and is the site of a reservoir which supplies the town of Daylesford.† Neither of these pieces of land is vested by deed in any municipal body; and, as regards the former, we recommend that it be at once restored to the forest, but that settlement of any kind upon it shall be strictly forbidden, and that the removal of any live timber from it shall be subject to the concurrence of the Chief Engineer for Water Supply. As regards the latter, known as the Bullarto Water Reserve, we consider it should be held also to be part of the permanent forest area, all settlement or timber-cutting being forbidden, and the temporary management and control being left, as at present, in the hands of the Daylesford Waterworks Trust.

* Gazette, 15th October, 1886, p. 2927.

† Gazette, 13th January, 1893, p. 162; Gazette, 17th November, 1893, p. 4483.

VI.—SETTLEMENT WITHIN THE FOREST.

In addition to the township reserves of Blackwood and Bayup or Barry's Reef, at one time the scene of extensive mining operations, two saw-milling villages containing an area of 640 acres each, and named Barkstead and Blakeville respectively, were many years ago surveyed and excised from the forest. Owing to the failure of suitable timber, the mills have long since been removed from these places, and they are now occupied by a few persons only, chiefly families of splitters and wood-carters. The original area of Barkstead has recently been reduced, the unoccupied land being restored to the forest, and doubtless the unoccupied portion of Blakeville can now be dealt with in the same way with advantage.

A somewhat different kind of settlement has been due to the survey and excision of small allotments, or in some instances a group of allotments, on some coveted patch of table land or creek flat in the heart of the forest. In this class of alienated lands are a large number of allotments on both sides of the road leading from Ballan to Daylesford, which run in a north-westerly direction and completely cut off the Korweinguboora portion of the forest from the main reserve. Another group of allotments lies to the east of those just mentioned, between the Upper Werribee and Musk Creek, and yet another in the parish of Blackwood, in the southern part of the forest. On the catchment area of the eastern branch of the River Moorabool there are also two blocks of 80 acres each. As this stream is, in conjunction with the present reservoir at Stony Creek, about to be utilized to supply water to the municipal district of Geelong, and an area of 562 acres (the southern portion of the allotments on the Ballan-Daylesford road already referred to) has been withheld from occupation for many years for the same purpose, the want of foresight displayed in permitting the selection and sale of these two pieces of land is obvious.

All these allotments have been alienated in fee simple, but there are also a number of instances where lands in the forest are held under special grazing licences, residence licences, on the authority of miners' rights, or without licence or permit of any kind. A residence licence empowers the holder to occupy 1 acre only in a State forest. Yet so lax has been the control of State rights in Wombat Reserve that persons have been permitted on this authority to fence in and occupy as much as 10 acres. Miners' rights give the holders no authority to occupy land in the forest, it being expressly exempted from such occupation by the terms of the original reservation, yet such rights are urged by persons who are not miners as authority for the seizure of from 1 to 10 acres of land. On the other hand, many persons (according to returns furnished by the local foresters, no fewer than 41) occupy allotments without licences of any kind. We think it well to point out that trespass of this kind in a valuable State forest such as Wombat should be looked at in a different light from the unauthorized occupation of unreserved Crown land in the neighbourhood of gold-field towns. In the latter case a few acres of poor silurian land may be occasionally fenced in and cultivated without loss to the State, while the occupant by taking out a miner's right, on payment of a nominal sum, obtains legal authority to retain the allotment for a term. But the circumstances are altogether different when, in a forest specially reserved and protected as a matter of State policy for the growth of timber, a number of persons are allowed to range over it and settle down where they please, taking without authority land which the general public are expressly forbidden to occupy. At the same time, the proper supervision and control of timber-cutting is rendered very difficult, while once having got a footing experience has shown that the trespassers seldom take the trouble to get an annual licence for any portion of the land they have seized.

We would lay it down as essential to the proper protection and conservation of this forest, surrounded as it is by townships and farms on every side, that occupation for residence in future should be strictly confined to such persons as for the time being are obtaining a livelihood by timber-cutting or mining in the reserves; that settlement should in all cases be confined to special areas or depôts set aside for the purpose; that every person desiring to occupy an allotment at such depôts, should, before entering thereon, be required to take out a residence licence, current for one year, but renewable, on payment of the sum of 10s.; and that no allotment should exceed 1 acre in extent.

With respect to present occupants, most of whom are in possession of allotments in the western part of the forest (the permanent reserve), a provision in section

114 of the *Land Act* 1898, which has general application to forest areas, gives to the Board of Land and Works discretionary power to recommend, on certain conditions, the issue of Crown grants for a maximum area of 10 acres (irrespective of the area now occupied), in any case where there are no mining or *other valid objections*.

In view of the fact that most of the illegal holders of land in Wombat Forest occupied their allotments after either the temporary or permanent reservation, in defiance of the conditions of such reservation, which forbade settlement therein; that their holdings are not confined to a small area, but are scattered over the reserve; and that there are equally strong objections to the sale of these lands on the score of forest conservancy and the proper protection of water supply, we feel it our duty, in the public interest, to oppose the alienation in fee simple of a single acre. On the other hand, we do not desire that the present holders of these allotments should be disturbed in any way, and we therefore recommend that the alternative course provided for in the above-mentioned section be followed, viz. :—That in every case where the occupant wishes to continue in possession of his allotment an annual licence be issued to him under conditions similar to those set forth in section 65 of the Principal Act, and the regulations made thereunder.

VII.—PROTECTION OF ADJACENT RESERVES.

Eastward of the the main forest, there are two areas known as the Bullengarook and Yangardook timber reserves, situated in the parishes of Bullengarook, Coimadai, and Yangardook, and containing 11,500 and 1,200 acres respectively. As these areas consist almost wholly of inferior land (schistose ridges and slopes), and bear a useful stock of messmate and stringybark, similar in quality to the trees in the eastern part of Wombat Forest, we recommend that they be permanently reserved for the growth of timber under the provisions of section 10 of the *Land Act* 1890.

VIII.—SUMMARY OF RECOMMENDATIONS.

The following is a summary of the recommendations made in this Report :—

1. The permanent reservation of the whole of the forest area which is now temporarily reserved or withheld from selection (estimated at 82,484 acres), including all unoccupied, forfeited, or cancelled allotments excised from the forest in 1893-4.
2. The immediate appointment or transfer of—
 - (a) An active, experienced, and intelligent forester-in-charge, who shall be responsible for the supervision of the reserve and for the efficient discharge of their duties by the subordinate foresters and assistant foresters.
 - (b) An assistant forester to share in the supervision of the northern division of the forest.
3. The abolition of the fixed licence system, and the adoption of the royalty system in lieu thereof—
 - (a) For saw-mills, from 1st September next.
 - (b) For splitters, prop-cutters, firewood-cutters, and all other timber-getters, from 1st August next.
4. The reduction of splitters' permits to such number as the Conservator and the Inspectors of Forests, after careful examination of the whole reserve, may decide to be necessary for the conservation and protection of young immature timber.
5. The improvement, by thinning out young timber, and clearing and burning undergrowth and useless débris, of certain specified areas in the northern, western, and south-western parts of the forest; and the making of fire-breaks.
6. The early utilization of the areas of burnt young timber in the western part of the forest for props and firewood, and to secure this end the offer of the same to timber-getters at half royalty rates.
7. The keeping, from 1st July next, of a separate account, showing all receipts from and expenditure on the forest, and the publication of a detailed statement thereof in the Annual Report of the Conservator.
8. The keeping, from the same date, of a record showing the annual output of all timber and firewood from the forest; the number of royalty permits issued to each class of timber-getters; and the number of mill site, residence, grazing, and any other occupation licences issued during the year for forest land; also the publication of such information in the Annual Report of the Conservator.

9. The survey of the forest into blocks of 640 to 1,000 acres, and the preparation of a general working plan showing—the kind of timber thereon, and its prevailing character, *i.e.*, whether in the sapling stage, semi-mature, approaching maturity, or mature; the foresters' districts and head-quarters; and the situation of all saw-mill sites, residence depôts, allotments held under annual licence, and alienated lands.

10. The inclusion in the permanent forest reserve of an area of 562 acres in the parish of Korweinguboorra, now temporarily reserved for water supply purposes.

11. The inclusion in the permanent forest area of 1,031 acres in the parish of Bullarto, at present permanently reserved for water supply purposes.

12. The restriction of residence within the forest in future to timber-getters and miners working within the reserve; the setting aside of special depôts for the purpose of such residence; the limitation of the size of the allotments in such depôts to a *maximum* area of 1 acre; and the issue of annual licences for all allotments.

13. The issue of annual residence licences to all illegal or unauthorized occupants of land within the forest area, under conditions similar to those which apply to licences issued under section 65 of the *Land Act* 1890.

14. The permanent reservation of the Bullengarook Timber Reserve (11,500 acres) and the Yangardook Timber Reserve (1,200 acres), on the eastern side of the main forest.

IX.—CONCLUSION.

We have thought it well to deal at considerable length with the present condition of this reserve, because from several aspects it must still be considered our most important forest. Its situation in the central district on both sides of the Dividing Range, the immense supplies of young timber which it contains, and the great reproductive power of its principal tree (the messmate), wherever the influence of soil and rainfall is favorable, give it advantages which are not possessed in the same degree by any other reserve in the colony. Its value as a source of supply, in connexion with the development of mining in the central district, served as it is by three lines of railway, can hardly be over-estimated, and for this reason alone the annual output of timber should be so regulated as to secure a continuous yield. But if the ravages of past years are to be repaired, and the forest brought to such a condition that it will furnish regular supplies of both milling and mining timber, strict conservation, together with the closing for a period of selected areas of the best immature timber to all cutting except improvement fellings, will be absolutely necessary. In concluding this Report, we desire to emphasize our opinion that there should be no undue delay in carrying out the recommendations for the protection and better working of the forest which, after careful consideration and personal inspection, we have deemed it our duty to make.

A. L. TUCKER, President.

THOS. BAKER.

ALF. S. BAILES.

J. BALFOUR BURTON.

D. J. DUGGAN.

DAVID HAM.

DAVID KERR.

A. R. OUTTRIM.

CHAS. SARGEANT.

G. J. TURNER.

Parliament House,
Melbourne, 27th June, 1899.