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WESTERN AUSTRALIA.



ANNUAL REPORT

OF

THE WOODS AND FORESTS DEPARTMENT

FOR THE

YEAR ENDED 31ST DECEMBER, 1917.

Presented to both Houses of Parliament by His Excellency's Command.

[THIRD SESSION OF TENTH PARLIAMENT.]

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The issue of this report has been delayed owing to the War Time Regulations, which prohibited the publication of information regarding the export timber trade.

ANNUAL REPORT OF THE WOODS AND FORESTS DEPARTMENT FOR THE YEAR ENDED 31st DECEMBER, 1917.

FORESTS.

The classification of the forest country in the South-Western Division has been continued. Unfortunately lack of funds prevented the work being carried out as rapidly as was expected. The two camps working at the beginning were reduced to one, with the result that the total area covered to the end of December amounted to only one million acres. The area gone over is sufficient, however, to show that all previous estimates of the extent of the Jarrah forests have been grossly exaggerated. Instead of the eight million acres so often quoted as the area of the belt, it is doubtful whether more than two million acres of prime Jarrah forest will be found. The classifiers have not yet gone over any Karri country, but here again a very heavy reduction in the estimates of the area of the country covered by prime forests of this species may be anticipated. The patches of virgin Jarrah forest yet remaining are very small indeed, and lie scattered between the already existing sawmilling areas, while the bulk of the forests have been severely cut over both by sawmills and sleeper hewers. From this it will be seen how serious is the outlook for the future timber industry. The findings of the Royal Commission on Forestry, which sat in 1903, have been disregarded by successive Governments. The warning that the Commission published was very clear and to the point, and read as follows:—

Your Commission is of opinion that in the interests of the State it would be a wise policy to discourage any increase in the rate of timber cutting till the consumption of scantling is fairly apace with the export of the larger sizes.

State acquiescence in the destruction of good timber only because the export trade demands it, is a crime against coming generations; and any attempts to increase the export in the interest of foreign companies, or with the object of inducing more men to join in timber getting at the expense of posterity, need wise resistance.

How little attention was paid to this is shown by the export figures, which in 1903 amounted to 154,969 loads, valued at £619,705, and in 1913 to 272,397 loads, valued at £1,089,481. For many years past Western Australia has been engaged in destroying an asset which is clearly the property of the nation, that is to say, the property of all future generations. Instead of regulating the cutting of timber so as to confine it to a quantity such that the forests could reproduce again, milling firms have been allowed to cut practically without restraint; in fact, they have been encouraged to cut as much as possible, and have been penalised when they did not maintain their output, with the result that the timber assets of the State have been depleted to an alarming extent.

The absence of large areas of virgin forest will mean that the era of the big mill is nearing an end, and in its place small mills will be substituted. These

will work over the ground already cut over by the big mills, and convert short logs, which the big mill owner regarded as unprofitable and passed over. The small mill is more economical than the big mill, recovering as much as 15 per cent. more from the round log. Against the better utilisation will have to be set the expense of opening up the country with tramlines to enable the small mills to operate. With the dying out of the large mill era and the substitution of the small mill, and the very necessary restrictions placed on sleeper hewing, a marked falling off in the total output of timber may be expected within the next decade, while the export trade will be proportionately reduced.

This state of affairs is directly due to the lack of a forest policy in the past, which has resulted in the uncontrolled exploitation of the forests and the neglect of the most ordinary means of improving the areas that have been cut out. To-day the State is faced with 1½ million acres of half cut out country, and a number of big sawmills without sufficient forest before them to keep them going for any length of time. The lack of any sound forest policy in the past has been mainly due to the erroneous opinion held by a large section of the population that forestry can only be practised at the expense of agriculture. This opinion was fostered by those whose business it was to encourage immigration, while the departmental officers appointed to select and subdivide so-called agricultural land, and whose daily bread depended solely on a policy of land settlement, did not lag behind in the general campaign against forest conservation. The isolation of the State from other parts of Australia where sound forest opinions are held, together with the fact that since Mr. Ednie Brown's death there has been no trained forester to advise the Government, have contributed to the general apathy on the subject of forestry. Forests instead of being regarded as assets were looked upon as irritating excrescences on the face of the earth to be sawn up, ring-barked, or otherwise destroyed to make room for the settler.

Regulations framed shortly after the sitting of the Royal Commission of 1903 aimed at perpetuating the forest, and to that end established a minimum girth so that trees of less girth would not be felled, but would grow on to make the timber of the future. The forestry field officers, however, were so utterly dominated by those responsible for land settlement that they allowed large areas of purely forest country to be alienated as soon as the big mills had picked the eyes of the timber out. The settler, in many instances, only took up the country in order to convert the remaining timber into hewn sleepers. In the circumstances it is little wonder that every encouragement was given to the sawmillers to convert the marketable timber within as short a space of time as possible. During all this time, however,

there has existed a section of the community which saw the inevitable disaster towards which the State was tending in its mismanagement of the timber areas, and of late the members of this section have made their voices heard. This is well shown by the fact that the Press, both in the metropolitan area and in country towns, opened its columns to articles on forest questions. A series of these, prepared by the Forest Department, were published during the year under report. The articles covered the field of forestry, and had for object the awakening of a forest conscience in the people. The Forest League, an association which was founded for a like purpose some years back, has lately taken a very active part and has published pamphlets on the subject.

There is no doubt that it is not yet too late to rectify the errors of the past, and it is hoped that the people themselves, awakening to the seriousness of the position, will see that the heritage of their children's children is handed down not only restored, but also improved.

RESERVATIONS.

The areas of permanent forest reserves stand practically as they did last year. The only addition has been 63 acres, Loc. 2939, in the Tuart country. These reserves are as follows:—

| | Acres. |
|--|--------|
| East of Lake Preston and Lake Clifton, No. 7655 | 7,850 |
| Stirling Estate, No. 9528 | 1,341 |
| Stirling Estate, No. 9530 | 654 |
| Wellington (near Ludlow), No. 2939 . . | 63 |
| | 9,908 |

The reservation of the prime Jarrah country awaits the completion of the classification; the same applies to the Karri and other forest belts.

FOREST WORK.

No funds were provided for forest work and the Department continued as heretofore as a purely revenue-collecting machine. The extra royalty of one shilling per load imposed on sawmill permit holders, and of 1s. 6d. per load on sleeper hewers was engulfed by the Treasury. It was distinctly understood by the millowners that this extra tax on the industry was levied in order to enable the Department to begin the work of improving the forests. That it has not been so used is regarded by those concerned as a breach of faith.

The twenty-five sample plots laid out last year in the various forest regions in order to ascertain the rate of growth of the different species were gone over and additional silvicultural data was added to the information already collected. One plot near Collie was swept by fire, the others, having been firebelted early, escaped.

FOREST FIRES.

Owing to the exceptionally heavy rains during the winter months and spring and to the fact that rain was experienced during the summer as well, the forest fires were not so severe as in 1916. If next summer happens to be a normally dry one, however,

the added collection of dead leaves and twigs and the increased size of the undergrowth are likely to cause serious fires. There is no doubt that fire is the forest's greatest enemy. On the other hand, it is doubtful whether there exist in any other country of similar climate such favourable conditions for fire fighting. Organisation alone is required. The first duty the Department must undertake when funds are made available is the organisation of a sound system of fire prevention.

LEGISLATION.

The forest act foreshadowed in the Premier's policy speech was not introduced, through press of other parliamentary business. It was found necessary to amend further the timber regulations. A permit is now necessary before forest produce of any sort (including hewn sleepers) is cut or removed. The permit is put up to tender and an agreement, setting forth the conditions under which the permit holder may operate, is drawn up between the Department and the successful tenderer. A year's experience of the hewing right system showed that the sleeper hewers were running over the country and picking only the best of the timber. Under the new regulations this is impossible, as a clause is inserted in all agreements which makes it obligatory on the holder of a hewing permit to fell and utilise all trees marked by the Ranger, and not to fell any that he has not marked. The proper control of timber hewers' operations is most necessary, as this is by far the most wasteful form of conversion that is being conducted to-day. The lack of control in the past has resulted in serious destruction over large areas of valuable virgin Jarrah forests. The country along the Marradong Road is an example of such destruction. With the exception of some slight opposition, which it was evident had been fomented for some ulterior motive, the regulation was not opposed. The sleeper hewers themselves complained, not of the regulations, but of the poor quality of forest that was chosen for hewing purposes. It is the policy of the department to select such areas only in localities which have been very heavily cut over in the past and where it clearly pays better to take the broad axe to the log than the log to the mill. Owing to the stagnation in the industry and the rise of the price of necessities, it has not been possible wholly to maintain the policy, with the result that the quality of the hewing permit areas selected may be regarded as above this standard.

Further amendments to the regulations were gazetted late in December, and will come into force on the 1st January, 1918. These provide for substitution of annual registration in lieu of the monthly license system. The license system is only excusable in a country where there is no control of the timber cutting and where in consequence license fees are the only revenue collected.

FOREST RANGING AND TIMBER INSPECTION.

Up to last year the forest ranging and timber inspection were carried out by the same officers. The result was that the ranging work was sacrificed to the much less important, though more lucrative work (from a Treasury standpoint) of inspecting the timber for export. Also the latter work was not being

carried out as efficiently as it should, owing to the district rangers' varying readings of the specifications on which the inspection was executed.

The department was reorganised and divided into two branches. Inspector McCoy, with assistant inspectors now controls all the inspection of timber, while the district forest rangers, with such assistants as funds will permit, patrol the forest of their districts, and control, as far as possible, the cutting of timber.

PLANTATION AND NURSERY WORK.

The area of Ludlow plantation was extended by 50 acres of Cluster pine. The seed was sown *in situ* and the germination was very good, the exceptionally wet season, however, did the young trees a great deal of harm, the bulk of the sown area being under water for three months. It is expected, in consequence, that some six to seven acres of the 50 will require replanting.

A small area—four acres—was notched in with cluster pine transplants. At the time of writing these are looking very well.

A small flying nursery was established at Ludlow, where sufficient cluster pine plants were raised for the 1918 planting. This little nursery should prove very satisfactory, for not only will it do away with the long and expensive transport—69 miles from Hamel—but also the plants will be raised in the same type of soil that they are destined to be planted in.

The Hamel stock, grown as it is in somewhat richer soil is apt to be too rank for the very hard conditions at Ludlow. The heavy rains caused several very severe floods, one of which undermined and partially washed away the main bridge over Ludlow River.

As stated in the 1916 report, the site at Ludlow is not one suitable for the purpose of growing soft woods, and as soon as the area on which clearing and other work has already been begun has been planted up, this area will be closed. In the meantime a careful search for a more suitable site has been made, and it has been decided that the Crown land lying between the Midland railway and Wanneroo Road appears to offer the best chance of success. The soil consists of poor white sand covered with a clothing of Banksia thicket. The cost of clearing will be small, and the distance to the main centre of population is at the most twenty miles. In an undertaking like planting soft woods whence compound interest on the initial expenditure mounts up at an alarming rate, it is essential that the cost of formation be reduced to the lowest possible figure, and that the early thinnings of the plantation are sold at such a price as will defray the cost of the work. Cluster pine should do well in the locality chosen, and the near proximity to Perth's fuel and other wood markets should render the initial expense small, and make the sale of the first thinnings possible.

Suburban forests have special value which is not generally recognised in Australia. In the older countries of the world they serve as resorts to the population, who are glad to enjoy the restful shade after the week's work and the glare of the streets. The people of Perth should appreciate this as much as, if not more, than the dwellers in the cities of Europe.

HAMEL NURSERY.

The sale of trees at cost price instead of the free distribution, which has been in force in the past, was inaugurated. It was not expected that, during the first year of the new system, the Nursery would entirely pay for itself. The number of trees raised during the preceding year were intended for free distribution, and there was naturally a falling off in the demand when the public was asked to pay. The result was that at the end of the season a number of trees were left on the manager's hands. The cost of the nursery to the State, however, was greatly reduced. The details regarding the trees raised and the manner of their disposal will be found in Appendix 5.

HAMEL PLANTATION.

As reported last year, the Monterey Pines in this plantation are going off at the top. An attempt was made to remedy the situation by a rather heavy thinning; at the time of writing, however, the sickly ones do not appear to have improved, so that it seems that it will be necessary to fell and utilise the timber as soon as possible.

The only pines of this species that are doing at all well at Hamel are those situated on a narrow belt of country where a sub-soil of laterite rubble occurs. The early promise of Monterey Pine on the sand plain country is doubtless due to the fact that the trees obtain all the nutriment that they require from the top spit of sand which contains a fair proportion of organic matter; as soon, however, as they grow to such a size as to send down their roots into the lower layers of sand they begin to go off at the top. Monterey Pine requires a good soil from a forestry standpoint, that is to say, a soil possessing a good sub-soil.

The price obtained for the thinnings was satisfactory, considering that none were older than 17, and many were only 13 years old, and that, in addition to this, the railage from Hamel to Perth is 74 miles. The high price is due to the war, which has prevented the importation of soft woods.

DRIFT SAND PLANTING.

Lack of funds prevented the work of fixing the drift sands begun at the Warren being continued. It is impossible too strongly to emphasise the importance of obtaining an annual appropriation for such work; failing this, the work begun cannot be continued, and the initial expenditure will be thrown away.

FOREST APPRENTICES.

Two apprentices were appointed in March, and four more later in the year. It is hoped by a system of apprenticeship to train young men for positions as foresters, etc. The lack of trained staff is a very serious trouble at present.

INTERSTATE FORESTRY CONFERENCE.

For the first time since the inception of the department the annual Interstate Forestry Conference was held in Perth. His Excellency the Governor General presided, and the following Ministers and Heads of State Forest Departments were present:—Hon. W. G. Ashford, M.P., Minister for Lands, New South Wales; R. A. O'Keefe, Esq., Secretary to the

Minister; R. Dalrymple Hay, Esq., Chief Commissioner of Forests, New South Wales; Hon. A. W. Styles, M.P., Minister for Lands, South Australia; W. Gill, Esq., Conservator of Forests, South Australia; H. H. Corbin, Esq., Lecturer in Forestry, South Australia; N. W. Jolly, Esq., Director of Forests, Queensland.

The following resolutions were agreed to by the Conference:—

Nomenclature of Australian Trees.

On the motion of Mr. Hay, seconded by Mr. Lane-Poole,

"That a sub-committee be appointed to consider the question of the duplication of the common names of trees and to endeavour to bring forward for the consideration of Conference a feasible solution of the difficulty."

Australian Forest School and Forest Products Laboratory.

On the motion of Mr. Jolly, seconded by Mr. Lane-Poole,

"That it be a recommendation from this Forestry Conference that the Commonwealth establish an institution for education in forestry and forestry research work."

Compilation of Existing Data with a View to the Establishment of a Forest Products Laboratory.

On the motion of Mr. Jolly, seconded by Hon. W. G. Ashford,

"That it is desirable that a complete compilation of data be made as requested by the Executive Committee of the Advisory Council of Science and Industry."

On the motion of Hon. W. G. Ashford, seconded by Mr. Gill,

"That in the opinion of this Conference, Mr. H. H. Corbin be appointed to carry out this duty and to compile the data asked for by the Advisory Council."

On the motion of Mr. Lane-Poole, seconded by Mr. Jolly,

"That Conference is of opinion that the heads of the several Forestry Departments in the Commonwealth be appointed to supply the data to Mr. Corbin."

Misleading Information Relating to Forest Statistics in Commonwealth Year Book.

On the motion of Mr. Lane-Poole, seconded by Mr. Jolly,

"That steps be taken for the purpose of correcting the figures in the Commonwealth Year Book, regarding the areas of forest, and the lines upon which that work should be accomplished should be a report from the sub-committee."

The Area capable of growing Forests in Australia is wholly inadequate.

On the motion of Mr. Lane-Poole, seconded by Mr. Jolly,

"That having in view the entirely inadequate area of country in the Commonwealth capable of produc-

ing valuable forest, that this Conference is of opinion that all prime forest areas should be permanently reserved."

On the motion of Hon. W. G. Ashford, seconded by Mr. Gill,

"That having in view the seriousness of the position, this Conference resolves that a statement be prepared by the State authorities with the request that it be brought before the next Premiers' Conference."

Recess Secretary.

On the motion of Mr. Jolly, seconded by Mr. Lane-Poole,

"That Mr. R. A. O'Keefe be standing Secretary to carry out the Conference proposals and suggestions when in recess."

Next Conference.

On the motion of Mr. Jolly, seconded by Mr. Gill, "That the Conference be held in Tasmania in September next if convenient to that State, and, if not, in Queensland."

A preliminary tour of inspection into the forests was made, when the delegates were able to see the Karri and Jarrah forests, and also the Western Australian system of lumbering, which differs somewhat from that in vogue in the Eastern States. Hamel Nursery and Plantation was also visited. The delegates then returned to Perth when the business of the Conference proper was conducted. The following papers were read and discussed:—

"The Trees of Western Australia," by Mr. J. H. Maiden, I.S.O., F.R.S., Government Botanist of New South Wales.

"An Attempt to secure a Uniform Nomenclature for Australian Timbers," by Mr. Maiden.

"The Forest Policy in New South Wales," by the Hon. W. G. Ashford, Minister for Lands and Forests.

"The Introduction of the Remarkable Pine (*Pinus insignis*) into South Australia, and its successful utilisation," by Mr. Walter Gill, Conservator of Forests, South Australia.

"The Reservation necessary for Australia," by Mr. N. W. Jolly, Director of Forests, Queensland.

"Forest Working Plans and the Importance of Standardising a system of Forest Statistics throughout the Commonwealth," by Mr. C. E. Lane-Poole, Conservator of Forests, Western Australia.

"Australian Forestry—New South Wales experience in a State undertaking, with conclusions and suggestions thereon," by Mr. R. Dalrymple Hay, Chief Commissioner of Forests, New South Wales.

"Education in Forestry and Forestry Research," by Mr. Jolly.

"Working Plan of the Forest of Kuitpo, South Australia," by Mr. H. H. Corbin, Lecturer in Forestry, Adelaide University.

"Sylvicultural Notes on the Hoop Pine and Queensland Cedar," by Mr. Jolly.

"Report of Timber Tests, 1917.—Investigation Nos. 1 and 2," by Mr. Alfred Tomlinson, M.Cs., Assoc. M.Inst.C.E., M.C.I., Acting Professor of Mining and Engineering, University of Western Australia.

Reports of Sub-Committees appointed to consider Forestry Statistics and Nomenclature.

Reports of Sub-Committees appointed to consider Nomenclature of Trees.

THE TIMBER INDUSTRY.

The timber trade continued in a very depressed state throughout the year; this was due entirely to the lack of shipping caused by the war. The list of mills is shown in Appendix 3B, and only twenty-three out of forty-one have worked during the year under report. The output of forest produce will be found in appendix number two, also the export and import figures in appendices 2G and 2H. It will be seen that the total production of sawn timber amounted to 113,095 loads as compared with 124,852 loads in 1916, while the export figures show that there has been a decrease of 18,609 loads valued at £76,762. Though the war has caused a stagnation of the trade it has had one good effect, the public has been forced to use Western Australian timbers, as the imported article was unobtainable, except at prohibitive cost. They have found it, rather to their surprise, better than the imported wood. Jarrah and karri are both being used for purposes for which they have not generally been used before. The chairs in the Government offices, which, up to date, were all of enemy origin bentwood, are now being manufactured of jarrah. Karri has been declared a sound wood for wood piping and the Chief Mechanical Engineer is putting banksia to the test for inside fittings of his rolling stock. With the not unmixed blessing of an export trade to cater for it is rash to make a forecast, yet it seems as though the date will not be far distant when the best jarrah will cease to be used for such an entirely second rate class of work as sleepers, and when the public will recognise the qualities of karri to such a degree that it will only be used for the best super-structural work.

Drying kiln.—The difficulty of obtaining seasoned wood, which is always found in a country whose timber trade is mainly an export one, is very prominent here; that it can be got over without much difficulty will be conceded when it is realised that the bulk of timber reaching Australia is kiln-dried. During the last year this question has exercised the minds of several of the leading timber men, with the result that arrangements have been made for the erection of an experimental dry kiln. The design of the kiln is to follow the latest U.S.A. model which the Forests Products Laboratory of Madison has evolved. The main feature of the kiln is that it is regulated by means of humidity, sprays of water at certain regulated temperatures being used to maintain the necessary degree of humidity, and so prevent uneven drying, with the attendant checking, case-hardening, and honeycombing. That the results obtained in U.S.A. from this kiln are satisfactory is shown by the fact that aeroplane stock has been kiln dried under this process.

Arbitration.—A new award has been made in connection with the Amalgamated Timber Workers' Union. The Union claimed a higher rate of pay for all workers. The Arbitration Court granted a rise all round, and the minimum wage was fixed at 9s. 7d. instead of 9s., which was the rate under the award of 1913. The principal change, however, was the classification of the sawbenches. Under the old award they were classified according to the previous bench. That is to say a big bench was one fed directly from a vertical or twin saw; a No. 2 bench was one fed from the big bench and so on. This resulted in an anomalous situation when the breaking down saw was equipped with labour-saving devices, and did more than merely dividing the log. In such cases the bench that followed it was to all intents and purposes, if not actually, a No. 2 bench. The Court decided to classify the benches according to the size of the saws they are built to take.

Classification of Benches.—Benches shall be rated as No. 1, No. 2, No. 3, and No. 4 respectively.

A No. 1 bench means and includes:—

- (a) Any breaking down bench other than one used solely for dividing and spotting logs; and
- (b) Any other bench capable of taking a saw exceeding 5ft. in diameter; and
- (c) Any bench which is fed with timber other than spots directly from a breaking down bench used solely for dividing and spotting logs.

A No. 2 bench means and includes:—

- (a) Any breaking down bench used solely for dividing and spotting logs; and
- (b) Any other bench capable of taking a saw over 4ft., but not exceeding 5ft. in diameter.

A No. 3 bench means any bench capable of taking a saw not exceeding 4ft. in diameter.

A No. 4 bench means any bench capable of taking a saw not exceeding 3ft. in diameter.

Provided, however, that in no case shall a bench be rated as lower than a No. 2 bench which takes over 60 per cent. of its timber directly from a breaking down bench.

The rates of pay are now as follows, and are in each case 7d. more than the old award:—

| | | <i>Mill Workers.</i> | | |
|--------------|----------------------|----------------------|----|------|
| | | £ | s. | d. |
| No. 1 Bench— | | | | |
| | Benchman | per shift | 0 | 13 7 |
| | Assistants | " | 0 | 10 1 |
| No. 2 Bench— | | | | |
| | Benchman | " | 0 | 12 7 |
| | Assistants | " | 0 | 9 10 |
| No. 3 Bench— | | | | |
| | Benchman | " | 0 | 11 7 |
| | Assistants | " | 0 | 9 7 |
| No. 4 Bench— | | | | |
| | Benchman | " | 0 | 10 7 |
| | Assistants | " | 0 | 9 7 |

The piece-work rates for sleeper hewers remain as before, viz., £1 10s. per load for sleepers up to 7ft. x

9in. x 4½in., and for sleepers over that size, £1 14s. per load. No alteration was made in the wages of fellers, which remain 1s. 4d. per load for virgin bush and 1s. 6d. per load for old bush. Certain provisions were made regarding the docking of logs and cross-cutting. A feller is paid day-work rate if ordered to cross-cut a log of less than five loads. Also 1s. 8d. per load is paid to him for felling a tree under 90 inches in girth. Certain other alterations were made regarding the manner of payment; but, generally speaking, the award otherwise remains the same.

SHIPBUILDING.

The shortage of ships due to the war resulted in the Imperial Authorities asking the Federal Government to inquire into the possibilities of starting shipbuilding in Australia. Negotiations were entered into between the Federal and the State Authorities regarding the building of wooden ships in this State. There is no doubt that the local timbers would supply all the timber necessary for shipbuilding, while excellent sites exist on the coast for slipways and shipyards. At first the Commonwealth ship-building experts were opposed to the proposal to build wooden ships, and laid it down that all ships built in Australia should be of steel; at the time of writing, however, there seems some hope of overcoming this difficulty, and constructing a restricted number of wooden ships. As pointed out above, the forests of Western Australia have suffered through the growth of the export trade and the lack of any population to utilise timber locally; the initiation of the ship-building industry in Western Australia would result in the better exploitation of the very valuable timber assets which the State possesses.

REVENUE AND EXPENDITURE.

The revenue derived from all sources amounted to £36,129, being £6,308 in excess of last year. It will be found itemised in Appendix 1A. The expenditure amounted to £10,263, being £688 in excess of last year. Practically the whole of the amount has been expended on collecting the revenue. No money has been spent on the improvement of the forests, and the Department, as has already been stated, has been purely a tax-collecting machine. The accumulated surplus revenue since the inception of the Department amounts to £467,198. The figures for each year will be found in Appendix 1D.

The State forests are a national asset which belong to all future generations and if promptly organised and managed will yield a timber supply for the industry for all time. The tax of £467,198, which has been levied on the sawmillers and timber workers should have gone back into the forests to consolidate and improve the forest capital. The revenue that may be expected from the forests even if the whole of it were made available, is not sufficient to pay for the work of putting the million and a-half acres of cut-over forest in good order, so that further funds will be required. While the reproductive character of forest work makes it beyond doubt a sound loan money investment, it might be argued with justice that it is inequitable to burden posterity with the cost of interest and sinking fund on a forest loan. It is clear that the present generation has derived all the benefits from the timber exploitation, and yet

not only has it contributed nothing towards the establishment of the forests, but also it has culpably failed to supply the necessary funds to improve and put the forests on a sound footing. If this view is a correct one, then the expenditure on the improvement of the national forests should be a revenue not a loan money item. This would seem to be the course adopted in the State of Victoria, where the revenue of the Forest Department for last year was £55,917 and the expenditure £68,556.

BOTANICAL.

Some further interesting specimens were added to the forest herbarium. A list of them will be found in Appendix 4.

Dr. Stoward, Government Botanist and Plant Pathologist, was kind enough to carry out the identification work.

TAN BARKS.

Lack of shipping is giving the mallet bark areas a well-deserved rest. It is to be hoped that settlers along the Great Southern Railway will realise the value of this eucalypt and preserve it. The same cause has made the tanners turn to our local tanning materials to replace Natal grown wattle. A leading tanner now uses in his pits 95 per cent. local barks of which redgum forms a large proportion. There is no doubt that if it is possible permanently to substitute local tannages for imported wattle, Myrabolans, Valona, etc., that a great benefit will accrue to the leather industry of the State, while it should be possible to establish tannin extract works, and develop an export trade in a product which is rapidly supplanting the raw barks.

The Commonwealth Advisory Council of Science and Industry looked into this subject and approved of the appointment of an expert leather chemist to undertake the research work into redgum tannage, and supplied a sum of money towards the expense of the chemist; this, however, proved inadequate, and the State Government has promised a further sum. This has not yet been made available, as the Government Analyst desired to see if he could solve the problem himself first. His research is still in progress.

SANDALWOOD AND SANDALWOOD OIL.

The sandalwood trade has suffered through lack of freight. 7,181 tons of this wood were procured during 1917, while 3,138 tons were exported. The trade would seem to be a particularly speculative one, depending as it does not only on fluctuating Chinese demand, but also on the vagaries of the silver market. The price realised in China varies between £14 and £15 10s. per ton. A much higher price is given for the North Australian wood and for that which comes from the islands. Owing to its comparatively low content in santalol, the Western Australian wood is of less value.

The distillation of sandalwood oil on a small scale still continues, and there were produced 3,320lbs. of crude oil during the year. The manufacturer deserves the highest praise for the way he has, despite every discouragement, persevered in the distillation of this valuable oil. His efforts have now to a certain extent been rewarded, for it has been shown by a Lon-

don essential oil chemist that the elimination of the small percentage (8 to 10 per cent.) of sesquiterpenes found in the crude oil is not an insuperable difficulty. It is therefore now practicable to bring the oil up to the British Pharmacopœia standard as regards its content of santalol, and with that end in view the manufacturer is obtaining the services of an essential oil chemist to take charge of the chemical side of the distillery.

VISIT OF M. MATHEY.

M. Mathey, Conservator of Forests, Dijon, France, a most distinguished French forester, visited the State in October. He made a tour of inspection of the forests and sawmills with the delegates of the Forest Conference. He was in a position to offer some very valuable advice regarding future sylvicul-

tural operations in the Karri and Jarrah forests, which the department will profit by. He was given all information regarding the timber trade, and on leaving he held out hopes of being able to open negotiations between the Department of Reconstruction of France and this office, with a view to the use of Jarrah and Karri in the rebuilding of devastated France and Belgium after the war.

PUBLICATIONS.

Julius' Timber Tests of Australian Timbers, 1st edition and supplement, were republished in one volume in pocket form.

C. E. LANE-POOLE,
Conservator of Forests.



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APPENDIX 1A.

REVENUE FOR YEAR ENDED 31ST DECEMBER, 1917.

| Particulars. | £ | s. | d. | £ | s. | d. |
|--|--------|----|----|---------|----|----|
| Licenses— | | | | | | |
| Woodcutters ... | 611 | 15 | 0 | | | |
| Sandalwood ... | 19 | 11 | 0 | | | |
| Timber ... | 459 | 10 | 0 | | | |
| Sleeper Hewers ... | 75 | 12 | 6 | | | |
| Mallet Bark ... | 20 | 10 | 0 | | | |
| Pile and Balk ... | 11 | 12 | 6 | | | |
| Blackboy and Kingia Grass ... | 1 | 0 | 0 | | | |
| Total ... | | | | 1,199 | 11 | 0 |
| Royalty on Logs— | | | | | | |
| Jarrah ... | 14,745 | 16 | 4 | | | |
| Karri ... | 2,345 | 4 | 4 | | | |
| Tuart ... | 145 | 15 | 2 | | | |
| Wandoo ... | 4 | 14 | 1 | | | |
| Banksia ... | 1 | 10 | 0 | | | |
| Sheaoak ... | 1 | 10 | 4 | | | |
| Pine Thinnings ... | 33 | 18 | 3 | | | |
| Total ... | | | | 17,278 | 8 | 6 |
| Royalty on Hewn Jarrah Sleepers— | | | | | | |
| At 4s. 7d. per load ... | 3 | 15 | 4 | | | |
| At 4s. " ... | 1,830 | 0 | 7 | | | |
| At 3s. 2d. " ... | 1 | 3 | 0 | | | |
| At 3s. " ... | 23 | 14 | 2 | | | |
| At 2s. 6d. " ... | 33 | 3 | 9 | | | |
| At 2s. " ... | 83 | 10 | 0 | | | |
| Total ... | | | | 1,975 | 6 | 10 |
| Royalty on Piles and Poles ... | 1,348 | 0 | 9 | | | |
| " Beams ... | 152 | 15 | 5 | | | |
| " Sandalwood ... | 1,795 | 8 | 7 | | | |
| " Firewood ... | 97 | 4 | 2 | | | |
| " Charcoal ... | 17 | 6 | 10 | | | |
| " Split Posts ... | 2 | 2 | 6 | | | |
| " Laths ... | 0 | 1 | 7 | | | |
| Total ... | | | | 3,412 | 19 | 10 |
| Inspection Fees on— | | | | | | |
| Hewn Sleepers from Crown Lands ... | 541 | 13 | 10 | | | |
| Sawn Sleepers from Crown Lands ... | 244 | 0 | 6 | | | |
| Sawn Timber from Crown Lands ... | 108 | 2 | 3 | | | |
| Hewn Sleepers from Private Property ... | 366 | 14 | 6 | | | |
| Sawn Sleepers from Private Property ... | 190 | 7 | 8 | | | |
| Sawn Timber from Private Property ... | 26 | 2 | 2 | | | |
| Piles and Poles ... | 35 | 7 | 4 | | | |
| Beams ... | 13 | 0 | 6 | | | |
| Total ... | | | | 1,525 | 8 | 9 |
| Miscellaneous ... | 54 | 7 | 11 | | | |
| Free Freight ... | 22 | 4 | 5 | | | |
| Brand Hammer Registration Fees ... | 22 | 8 | 3 | | | |
| Rent collected on Tuart Reserve ... | 13 | 0 | 0 | | | |
| Rent, Hamel Cottage ... | 2 | 18 | 6 | | | |
| Sale of— | | | | | | |
| Branding Hammers ... | 6 | 12 | 0 | | | |
| Trees ... | 250 | 11 | 2 | | | |
| D. E. Hutchins' Report on Australian Forestry ... | 63 | 11 | 3 | | | |
| Julius' Timber Tests ... | 5 | 8 | 4 | | | |
| Rents from Timber Leases and Rents from Timber Tramlines ... | 10,276 | 11 | 2 | | | |
| Rents from Saw Mill Sites ... | 19 | 10 | 0 | | | |
| Grand Total of Revenue ... | | | | £36,128 | 17 | 11 |

APPENDIX 1B.

| Particulars. | TRUST FUND. | | | | £ s. d. | | £ s. d. | |
|--------------------------|-------------|-----|-----|-----|---------|-----|---------|-----------|
| | ... | ... | ... | ... | ... | ... | ... | ... |
| Hewers' Deposits | ... | ... | ... | ... | 650 | 0 | 0 | |
| Branding Hammer Deposits | ... | ... | ... | ... | 46 | 10 | 0 | |
| Miscellaneous Refunds | ... | ... | ... | ... | 106 | 5 | 8 | |
| Total | ... | ... | ... | ... | | | | £802 15 8 |

APPENDIX 1c.

EXPENDITURE FOR YEAR ENDED 31ST DECEMBER, 1917.

| Particulars. | TRUST FUND. | | | | £ s. d. | | £ s. d. | |
|---------------------------|-------------|-----|-----|-----|---------|-----|---------|-------------|
| | ... | ... | ... | ... | ... | ... | ... | ... |
| Salaries and Allowances | ... | ... | ... | ... | 8,456 | 9 | 8 | |
| Maintaining State Nursery | ... | ... | ... | ... | 175 | 11 | 8 | |
| Incidental Expenses | ... | ... | ... | ... | 1,458 | 9 | 11 | |
| Workers' Compensation | ... | ... | ... | ... | 25 | 8 | 11 | |
| Reforestation | ... | ... | ... | ... | 147 | 2 | 3 | |
| Total | ... | ... | ... | ... | | | | £10,263 2 5 |

APPENDIX 1d.

Revenue and Expenditure.

The following statement shows the revenue and expenditure of the Department since its inception in 1895:—

| Year. | Revenue. | | Expenditure. | |
|--|-----------|-------|--------------|-------|
| | £ | s. d. | £ | s. d. |
| 1st Jan. to 31st Dec., 1895 | 3,175 | 5 2 | 1,108 | 5 5 |
| 1st Jan. to 31st Dec., 1896 | 4,838 | 11 2 | 2,020 | 11 5 |
| 1st Jan. to 31st Dec., 1897 | 12,320 | 6 4 | 3,489 | 14 4 |
| 1st Jan. to 31st Dec., 1898 | 30,150 | 6 3 | 3,356 | 5 7 |
| 1st Jan. to 31st Dec., 1899 | 16,999 | 11 3 | 2,438 | 7 5 |
| 1st Jan. to 31st Dec., 1900 | 15,525 | 19 2 | 2,648 | 11 10 |
| 1st Jan. to 31st Dec., 1901 | 18,477 | 16 2 | 2,747 | 6 3 |
| 1st Jan. to 31st Dec., 1902 | 18,752 | 11 7 | 4,301 | 6 1 |
| 1st Jan. to 31st Dec., 1903 | 20,478 | 9 1 | 3,789 | 3 4 |
| 1st Jan. to 31st Dec., 1904 | 20,018 | 19 4 | 4,192 | 16 9 |
| 1st Jan. to 31st Dec., 1905 | 18,479 | 18 6 | 5,089 | 18 6 |
| 6 months, 1st Jan. to 30th June, 1906 | 10,973 | 18 4 | 3,385 | 1 9 |
| 1st July, 1906, to 30th June, 1907 | 22,783 | 1 5 | 6,207 | 15 2 |
| 1st July, 1907, to 30th June, 1908 | 23,498 | 13 3 | 8,801 | 14 3 |
| 1st July, 1908, to 30th June, 1909 | 29,484 | 3 8 | 9,030 | 12 6 |
| 1st July, 1909, to 30th June, 1910 | 31,549 | 6 11 | 8,531 | 0 9 |
| 1st July, 1910, to 30th June, 1911 | 37,477 | 3 5 | 8,862 | 16 8 |
| 1st July, 1911, to 30th June, 1912 | 44,560 | 10 10 | 10,469 | 4 10 |
| 1st July, 1912, to 30th June, 1913 | 48,236 | 14 0 | 11,463 | 2 11 |
| 1st July, 1913, to 30th June, 1914 | 53,038 | 16 0 | 12,092 | 15 3 |
| 6 months, 30th June to 31st Dec., 1914 | 22,906 | 0 0 | 5,468 | 14 0 |
| 1st Jan. to 31st Dec., 1915 | 45,725 | 13 9 | 8,869 | 15 11 |
| 1st Jan. to 31st Dec., 1916 | 29,820 | 12 10 | 9,575 | 3 2 |
| 1st Jan. to 31st Dec., 1917 | 36,128 | 17 11 | 10,263 | 2 5 |
| | £ 615,401 | 6 4 | 148,203 | 6 6 |

It will be seen from the above statement that to the 31st December, 1917, the revenue exceeded the expenditure by the large sum of £467,197 19s. 10d.

APPENDIX 1E.

Statement of Revenue collected by the Inspection Branch of the Woods and Forests Department during the five months ended 31st December, 1917.

REVENUE.

| | Inspection Fees. | | |
|--------------------------|------------------|---------|------------|
| | Loads. | Rate. | Amount. |
| Sawn Jarrah, heart-out | 7,060 | 9d. | £ 264 15 0 |
| Hewn Jarrah, heart-out | 7,250 | 1s. | 362 10 0 |
| Jarrah beams, over limit | 26 | 1s. 4d. | 1 14 8 |
| Jarrah beams, heart-in | 11,660 | 1d. | 48 11 8 |
| Jarrah Piles | 2,651 | 1½d. | 14 14 6 |
| Do. | 3,335 | 2d. | 27 15 10 |
| Do. | 120 | 2½d. | 1 6 8 |
| | | | £721 8 4 |

APPENDIX 1F.

Loan Expenditure for the Year ended 31st December, 1917.

| | £ | s. d. |
|------------------------|--------|-------|
| Ludlow Pine Plantation | 341 | 0 0 |
| Classification | 1,936 | 0 0 |
| | £2,277 | 0 0 |

APPENDIX 2A.

Annual Production for Year ended 31st December, 1917.

MAJOR FOREST PRODUCE.

| | Mill Logs. | |
|---------------|------------|-------------|
| | Loads. | Cubic feet. |
| Jarrah | 225,840 | 11,292,000 |
| Karri | 29,545 | 1,477,250 |
| Tuart | 1,675 | 83,750 |
| Wandoo | 175 | 8,750 |
| | 257,235 | 12,861,750 |

The logs are measured on the quarter girth system, and the recovery by the mills for Jarrah is 45 per cent. ; Karri, 35 per cent. ; Tuart, 50 per cent., and Wandoo, 50 per cent. ; so that the above total represents in sawn timber 113,095 loads, or 5,654,750 cubic feet.

MILL LOGS.—This statement includes all timber from Crown Lands, Sawmill Permits, Timber Leases and Timber Concessions, but does not include timber cut on private property.

APPENDIX 2B.

HEWN JARRAH SLEEPERS.

| | Loads. | Cubic feet. |
|--|--------|-------------|
| From Crown Lands, Saw Mill Permits, etc., inspected and uninspected, on which royalty has been paid | 11,611 | 580,550 |
| From Private Property, Leases, and Concessions—Inspected | 8,025 | 401,250 |
| From Private Property—Uninspected | 398 | 19,900 |
| | 20,034 | 1,001,700 |

NOTE.—The average recovery by the hewer is 25 per cent. of the log, the latter being measured on the quarter girth system. The above total represents 80,136 loads or 4,006,800 cubic feet in the log.

APPENDIX 2C.

Total Timber Production.

| | In the log. | | In the square. | |
|-----------------------------|-------------|-------------|----------------|-------------|
| | Loads. | Cubic feet. | Loads. | Cubic feet. |
| Total Milling Timber | 257,235 | 12,861,750 | 113,095 | 5,654,750 |
| Total Hewing Timber | 80,136 | 4,006,800 | 20,034 | 1,001,700 |
| | 337,371 | 16,868,550 | 133,129 | 6,656,450 |

APPENDIX 2D.

Round Piles and Poles 120,486 running feet.

APPENDIX 2E.

Mining Timber and Firewood for Year ended 31st December, 1917.

| | Tons. |
|--|-----------|
| Wood fuel consumed on Greenbushes Mining Field | 7,995 |
| Mining Timber consumed on Collie Coal Fields ... | 3,503 |
| Wood fuel consumed in Metropolitan Areas ... | 151,618 |
| Wood fuel consumed on Golden Mile and Coolgardie and Norseman Mines | 432,315 |
| Mining Timber consumed on Golden Mile and Norseman Mines | 8,500 |
| Wood fuel consumed on Northern Goldfields—Lancefield, Gwalia, Menzies, Ora Banda, Comet Vale, Kanowna | 92,182 |
| Mining Timber consumed on Northern Goldfields... | 2,896 |
| Wood fuel consumed on Southern Cross Areas—Westonia, Bullfinch, Golden Valley | 25,298 |
| Mining Timber consumed on Southern Cross Areas | 2,070 |
| Household wood consumed on the Goldfields ... | 30,220 |
| Bakers' wood | 25,000 |
| Engine wood consumed on tramways (wood lines) | 12,186 |
| Sleepers consumed on wood tram lines | 800 |
| | * 794,583 |

* Exclusive of mining timber and firewood consumed on the Murchison and other distant goldfields not mentioned above.

APPENDIX 2F.

QUANTITY OF TIMBER TREATED BY FOREST SAWMILLS EXPORTED DURING THE YEAR 1917.

| Timber Undressed. | Karri. | Jarrah. | Inter- state. | New Zea- land. | Mauri- tius. | South Africa. | India. | London, England. | Colombo. | Purpose Intended. |
|---|--------------|------------|------------------|----------------------|-----------------|------------------|------------|---------------------|------------|---------------------------------------|
| Logs and Spars in the rough ... | loads. 40 | loads. 102 | loads. 57 | loads. ... | loads. ... | loads. 85½ | loads. ... | loads. ... | loads. ... | |
| Piles, Hewn ... | ... | 2,030½ | 2,030½ | ... | ... | ... | ... | ... | ... | |
| Undressed, 7in. x 2½in. ... | 13 | 1,540½ | 1,420½ | ... | 120 | 13 | ... | ... | ... | |
| Undressed, 7½in. x 2½in. to 12in. x 6in. | 1,558 | 6,247 | 7,371 | 309 | 125 | ... | ... | ... | ... | |
| Undressed, 12in. x 6in., and over | 58 | 352½ | 410½ | ... | ... | ... | ... | ... | ... | |
| Undressed, various sizes ... | 37 | 20,549 | 17,597 | 1,141 | ... | 1,616 | 232 | ... | ... | |
| Laths ... | ... | 8 | 8 | ... | ... | ... | ... | ... | ... | |
| Pickets and Palings ... | ... | 383 | 383 | ... | ... | ... | ... | ... | ... | |
| Flooring Boards ... | ... | 2,861 | 2,807 | ... | ... | 54 | ... | ... | ... | |
| Paving Blocks ... | ... | 3,172½ | 3,172½ | ... | ... | ... | ... | ... | ... | Including planks for paving blocks |
| Sleepers ... | ... | 16,422 | 4,231 | 1,676 | ... | 8,117 | 924 | 589 | 885 | |
| Sleepers, Powellised ... | 1,814 | 1,740 | ... | ... | ... | 1,740 | ... | 1,814 | ... | |
| Telegraph Arms ... | ... | 71 | 71 | ... | ... | ... | ... | ... | ... | |
| Total, Undressed ... | 3,520 | 55,479 | 39,559 | 3,126 | 245 | 11,625 | 1,156 | 2,403 | 885 | |
| Timber, Dressed : | | | | | | | | | | |
| Various ... | ... | 28 | ... | ... | 28 | ... | ... | ... | ... | Shingles. |
| Wandoo ... 2 loads | ... | ... | 2 | ... | ... | ... | ... | ... | ... | |
| Tuart ... 2 loads | ... | ... | 2 | ... | ... | ... | ... | ... | ... | |
| 4 loads | 3,520 | 55,507 | 39,563 | 3,126 | 273 | 11,625 | 1,156 | 2,403 | 885 | |
| Grand Total ... | 59,031 loads | | | | | | | | | |

Total value of timber exported, £80,943.

APPENDIX 2F—continued.

| | Quantity. | Value. | | Quantity. | Value. |
|--|-----------|--------|--|-----------|----------|
| Bark— | cwt. | £ | Sandalwood— | cwt. | £ |
| Java ... | 4,913 | 2,201 | India ... | 6,460 | 4,061 |
| United Kingdom ... | 2,992 | 1,345 | Straits Settlements ... | 11,134 | 6,958 |
| Commonwealth of Australia, other States ... | 26,890 | 11,999 | Hong Kong ... | 40,927 | 18,883 |
| | | | Commonwealth of Australia, other States ... | 4,243 | 2,654 |
| | | | | 62,764 | 32,556 |
| | 34,795 | 15,545 | Total value of Forest Produce Exported ... | ... | £129,044 |

APPENDIX 2G.

Summary of Exports of Forest Produce since 1836.

| Year. | Timber. | | Sandalwood. | | Mallet Bark. | Year. | Timber. | | Sandalwood. | | Mallet Bark. |
|----------|---------|---------|-------------|--------|--------------|-----------|-----------|------------|-------------|-----------|--------------|
| | Loads. | Value. | Tons. | Value. | Value. | | Loads. | Value. | Tons. | Value. | Value. |
| 1836a... | 200 | £ 2,500 | ... | £ | £ | 1882 ... | 18,730 | £ 93,650 | 9,605 | £ 96,050 | ... |
| 1837 ... | ... | ... | ... | ... | ... | 1883 ... | 19,940 | 79,760 | 7,031 | 56,250 | ... |
| 1838 ... | ... | ... | ... | ... | ... | 1884 ... | 17,234 | 68,936 | 2,620 | 20,960 | ... |
| 1839 ... | ... | ... | ... | ... | ... | 1885 ... | 16,963 | 67,850 | 4,527 | 36,216 | ... |
| 1840 ... | ... | ... | ... | ... | ... | 1886 ... | 12,523 | 50,092 | 3,431 | 27,450 | ... |
| 1841 ... | ... | ... | ... | ... | ... | 1887 ... | 7,096 | 28,384 | 4,317 | 34,533 | ... |
| 1842 ... | ... | ... | ... | ... | ... | 1888 ... | 10,515 | 42,060 | 4,470 | 33,525 | ... |
| 1843 ... | ... | ... | ... | ... | ... | 1889 ... | 15,770 | 63,080 | 6,385 | 57,465 | ... |
| 1844 ... | b | 163 | ... | ... | ... | 1890 ... | 23,444 | 82,052 | 5,136 | 51,355 | ... |
| 1845 ... | ... | ... | 4 | 40 | ... | 1891 ... | 25,479 | 89,179 | 3,760 | 37,600 | ... |
| 1846 ... | 51 | 255 | 32 | 320 | ... | 1892 ... | 21,653 | 78,419 | 5,716 | 42,870 | ... |
| 1847 ... | 244 | 1,120 | 370 | 4,444 | ... | 1893 ... | 10,259 | 33,888 | 3,893 | 32,160 | ... |
| 1848 ... | 67 | 333 | 1,335 | 13,353 | ... | 1894 ... | 21,274 | 74,804 | 2,784 | 23,430 | ... |
| 1849 ... | ... | ... | ... | ... | ... | 1895 ... | 25,105 | 88,146 | 3,851 | 30,863 | ... |
| 1850 ... | 210 | 1,048 | ... | ... | ... | 1896 ... | 30,912 | 116,420 | 6,848 | 65,800 | ... |
| 1851 ... | 25 | 268 | 219 | 1,593 | ... | 1897 ... | 47,866 | 192,451 | 5,852 | 49,480 | ... |
| 1852 ... | 141 | 806 | ... | ... | ... | 1898 ... | 81,723 | 326,195 | 4,349 | 31,812 | ... |
| 1853 ... | 1,044 | 5,220 | ... | ... | ... | 1899 ... | 138,271 | 553,198 | 4,084 | 29,719 | ... |
| 1854 ... | 1,170 | 7,023 | ... | ... | ... | 1900 ... | 114,508 | 458,461 | 5,095 | 39,038 | ... |
| 1855 ... | 1,538 | 12,076 | ... | ... | ... | 1901 ... | 143,012 | 572,354 | 8,864 | 73,931 | ... |
| 1856 ... | 1,410 | 9,671 | ... | ... | ... | 1902 ... | 125,135 | 500,533 | 7,995 | 61,771 | ... |
| 1857 ... | 1,384 | 9,449 | 280 | 2,524 | ... | 1903 ... | 154,969 | 619,705 | 4,406 | 37,913 | 859 |
| 1858 ... | 585 | 2,340 | 745 | 7,455 | ... | 1904 ... | 161,446 | 654,949 | 4,510 | 25,417 | 32,876 |
| 1859 ... | 1,345 | 6,051 | 1,278 | 17,259 | ... | 1905 ... | 174,190 | 689,943 | 5,521 | 38,817 | 154,087 |
| 1860 ... | 1,096 | 4,932 | 1,687 | 16,360 | ... | 1906 ... | c 176,614 | 708,993 | 8,848 | 70,958 | 140,720 |
| 1861 ... | 555 | 2,497 | 2,558 | 24,945 | ... | 1907 ... | c 128,191 | 511,923 | 9,212 | 65,999 | 98,773 |
| 1862 ... | 1,376 | 7,151 | 2,393 | 21,541 | ... | 1908 ... | c 197,390 | 813,591 | 9,564 | 77,668 | 79,934 |
| 1863 ... | 658 | 2,963 | 2,807 | 25,265 | ... | 1909 ... | c 216,609 | 867,419 | 4,805 | 37,456 | 59,633 |
| 1864 ... | 1,166 | 5,508 | 2,724 | 24,520 | ... | 1910 ... | c 241,482 | 972,698 | 8,228 | 70,775 | 93,733 |
| 1865 ... | 3,679 | 15,693 | 1,686 | 13,490 | ... | 1911 ... | c 248,990 | 986,341 | 6,907 | 65,506 | 83,470 |
| 1866 ... | 1,713 | 6,849 | 2,965 | 23,722 | ... | 1912 ... | c 225,942 | 903,396 | 3,154 | 27,533 | 49,094 |
| 1867 ... | 1,135 | 4,541 | 2,305 | 18,442 | ... | 1913 ... | c 272,397 | 1,089,481 | 6,260 | 47,589 | 47,377 |
| 1868 ... | 160 | 638 | 3,256 | 26,045 | ... | 1914d... | c 125,595 | 502,153 | 4,702 | 39,800 | 18,197 |
| 1869 ... | 3,598 | 14,274 | 4,124 | 32,998 | ... | 1915e... | c 199,370 | 808,392 | 8,375 | 78,926 | 6,127 |
| 1870 ... | 3,144 | 17,551 | 6,112 | 48,890 | ... | 1916e... | 108,642 | 441,991 | 6,271 | 61,381 | 10,208 |
| 1871 ... | 4,370 | 15,304 | 3,366 | 26,926 | ... | 1917e... | 77,813 | 310,893 | 7,230 | 72,669 | 18,959 |
| 1872 ... | 740 | 2,590 | 3,942 | 31,536 | ... | 1918e... | 68,725 | 274,141 | 6,494 | 81,834 | 16,886 |
| 1873 ... | 1,363 | 4,771 | 6,292 | 62,916 | ... | Total ... | 3,815,134 | 15,349,870 | 312,362 | 2,709,963 | 910,933 |
| 1874 ... | 6,912 | 24,192 | 7,057 | 70,572 | ... | | | | | | |
| 1875 ... | 6,847 | 23,965 | 6,646 | 66,465 | ... | | | | | | |
| 1876 ... | 4,381 | 23,743 | 6,577 | 65,772 | ... | | | | | | |
| 1877 ... | 6,723 | 36,979 | 4,247 | 31,851 | ... | | | | | | |
| 1878 ... | 11,618 | 63,902 | 4,675 | 35,064 | ... | | | | | | |
| 1879 ... | 12,545 | 69,742 | 4,667 | 35,001 | ... | | | | | | |
| 1880 ... | 13,251 | 66,252 | 5,197 | 51,970 | ... | | | | | | |
| 1881 ... | 15,855 | 79,277 | 7,716 | 77,165 | ... | | | | | | |

a The exports up to year 1834 consisted only of supplies to shipping of which no record is kept.

b Not available.

c Approximate figures only.

d Six months ended 30th June.

e Year ended 30th June.

APPENDIX 2H.

Timber Imports for the Year ended 31st December, 1917.

| Timber. | super feet. | £ |
|--|---------------|--------|
| Dressed, N.E.I.— | | |
| United States of America ... | 122,300 ... | 1,607 |
| Straits Settlements ... | 2,600 ... | 24 |
| Commonwealth of Australia ... | 180,436 ... | 3,203 |
| | 305,336 ... | 4,834 |
| For making Boxes or Doors— | | |
| United Kingdom ... | 800 ... | 39 |
| Straits Settlements ... | 200 ... | 8 |
| Commonwealth of Australia ... | 131,104 ... | 1,873 |
| | 132,104 ... | 1,920 |
| For making Boxes or Doors, Undressed— | | |
| United Kingdom ... | 500 ... | 28 |
| Straits Settlements ... | 281,000 ... | 1,572 |
| | 281,500 ... | 1,600 |
| Hickory, Undressed— | | |
| United States of America ... | 1,200 ... | 42 |
| | 1,200 ... | 42 |
| New Zealand Pine, Undressed, of all sizes— | | |
| Commonwealth of Australia ... | 15,175 ... | 202 |
| | 15,175 ... | 202 |
| Logs, not sawn—Java ... | | |
| | 3,800 ... | 36 |
| | 3,800 ... | 36 |
| Undressed, in sizes less than 7 x 2½ inches: | | |
| United Kingdom ... | 700 ... | 10 |
| United States of America ... | 370,700 ... | 4,231 |
| Dutch East Indies ... | 5,000 ... | 30 |
| China ... | 2,300 ... | 3 |
| Japan ... | 22,800 ... | 456 |
| Straits Settlement ... | 28,200 ... | 147 |
| New Zealand ... | 1,500 ... | 21 |
| Sweden ... | 3,000 ... | 7 |
| | 434,200 ... | 4,905 |
| Undressed in sizes of 7 x 2½ inches and upwards and less than 12 x 6 inches: | | |
| United Kingdom ... | 900 ... | 25 |
| United States of America ... | 553,300 ... | 6,732 |
| Japan ... | 2,200 ... | 34 |
| New Zealand ... | 600 ... | 8 |
| | 557,000 ... | 6,799 |
| Undressed in sizes of 12 x 6 inches and over: | | |
| United States of America ... | 7,800 ... | 5,600 |
| Sweden ... | 1,100 ... | 11 |
| Commonwealth of Australia ... | 363,699 ... | 6,271 |
| | 995,599 ... | 11,882 |
| Veneers—Three-ply | | |
| United States of America ... | 7,800 ... | 392 |
| Japan ... | 10,300 ... | 568 |
| Commonwealth of Australia ... | * ... | 2,212 |
| | †18,100 ... | 3,172 |
| Veneers—N.E.I.: | | |
| United Kingdom ... | ... | 16 |
| Commonwealth of Australia ... | ... | 15 |
| | ... | 31 |
| Total Super feet ... | 2,744,014 ... | ... |

* Not available.

| | No. | £ |
|---|------------|---------|
| Architraves, Moulding, etc.— | | |
| Commonwealth of Australia ... | ... | 1,025 |
| | ... | 1,025 |
| Bent or cut into shape— | | |
| United Kingdom ... | ... | 6 |
| United States of America ... | ... | 91 |
| | ... | 97 |
| Hubs— | | |
| Elm, with metal bands: | | |
| United States of America ... | 72 ... | 18 |
| | 72 ... | 18 |
| Prepared, other: | | |
| Commonwealth of Australia ... | 1,978 ... | 189 |
| | 1,978 ... | 189 |
| Laths— | | |
| For Blinds: | | |
| Commonwealth of Australia ... | ... | 224 |
| | ... | 224 |
| N.E.I.: | | |
| United States of America ... | 90,000 ... | 202 |
| | 90,000 ... | 202 |
| Pictures and Room Moulding— | | |
| United Kingdom ... | ... | 5 |
| United States of America ... | ... | 731 |
| Japan ... | ... | 12 |
| Italy ... | ... | 157 |
| Norway ... | ... | 107 |
| Commonwealth of Australia ... | ... | 51 |
| | ... | 1,063 |
| Rims, Felloes of Hickory in rough— | | |
| United States of America ... | ... | 69 |
| | ... | 69 |
| Rims, N.E.I.— | | |
| Commonwealth of Australia ... | 1,048 ... | 299 |
| | 1,048 ... | 299 |
| Shafts, Poles, and Bars— | | |
| United States of America ... | ... | 65 |
| Canada ... | ... | 5 |
| Commonwealth of Australia ... | ... | 1,404 |
| | ... | 1,474 |
| Spokes—Dressed or prepared (not being Hickory)— | | |
| Commonwealth of Australia ... | 37,440 ... | 687 |
| | 37,440 ... | 687 |
| Spokes—Dressed, Hickory— | | |
| United States of America ... | 5,950 ... | 79 |
| Commonwealth of Australia ... | 2,500 ... | 95 |
| | 8,450 ... | 174 |
| Staves, Dressed, or partly dressed— | | |
| Commonwealth of Australia ... | 13,233 ... | 276 |
| | 13,233 ... | 276 |
| Total Value ... | ... | £41,220 |

† See “*”

APPENDIX 3A.

Sawmill Permits, Concessions, Leases, Hewing Permits and Firewood Permits.

The following Return shows the Sawmill Permits, Concessions, Leases, Hewing Permits, and Firewood Permits in existence up to the 31st December, 1917:—

CONCESSIONS.

| Concessionaire. | No. | Locality. | Term. | Original Area. | Present Area. |
|--------------------------------|------|--------------------|--|----------------|---------------|
| Millars' T. & T. Co., Ltd. ... | 12/0 | Cockburn Sound ... | 1-1-1899 to 31-12-1901; 1-1-1902 to 31-12-1915; 1-1-1916 to 31-12-1929 | 250,000 | 250,000 |
| Millars' T. & T. Co., Ltd. ... | 12/1 | Canning | 1-1-1893 to 31-12-1924 | 100,000 | 82,750 |
| Millars' T. & T. Co., Ltd. ... | 12/2 | Sussex | 15-1-1883 to 14-1-1925 | 46,000 | 45,389 |
| | | | Total | 396,000 | 378,139 |

LEASES.

| Lessee. | No. | Locality. | Term. | Original Area. | Present Area. |
|--------------------------------|---------|-----------------------|------------------------|----------------|---------------|
| Ainslie, James | 145/113 | Nelson | 1-1-1899 to 31-12-1923 | 4,480 | 4,389 |
| Ainslie, James | 149/113 | Nelson | 1-1-1899 to 31-12-1923 | 4,480 | 4,092 |
| Ainslie, James | 150/113 | Nelson | 1-1-1899 to 31-12-1923 | 4,480 | 3,532 |
| Millars' T. & T. Co., Ltd. ... | 186/113 | Wellington | 1-1-1899 to 31-12-1923 | 27,000 | 16,012 |
| Millars' T. & T. Co., Ltd. ... | 227/113 | Wellington | 1-1-1901 to 31-12-1925 | 4,480 | 2,743 |
| Millars' T. & T. Co., Ltd. ... | 228/113 | Wellington | 1-1-1901 to 31-12-1925 | 4,480 | 4,130 |
| Millars' T. & T. Co., Ltd. ... | 229/113 | Wellington | 1-1-1901 to 30-12-1925 | 4,480 | 3,962 |
| Millars' T. & T. Co., Ltd. ... | 230/113 | Wellington | 1-1-1901 to 31-12-1925 | 4,480 | 4,480 |
| Good, Frederick Daniel ... | 244/113 | Murray | 1-7-1899 to 30-6-1924 | 17,280 | 13,259 |
| Good, Frederick Daniel ... | 257/113 | Nelson | 1-10-1899 to 30-9-1924 | 33,280 | 28,876 |
| Millars' T. & T. Co., Ltd. ... | 261/113 | Murray | 1-10-1899 to 30-9-1924 | 58,270 | 22,937 |
| The Timber Corporation, Ltd. | 268/113 | Nelson | 1-10-1899 to 30-9-1924 | 49,920 | 34,028 |
| Wittenoom, Edward Horne ... | 269/113 | Wellington | 1-10-1899 to 30-9-1924 | 5,000 | 2,080 |
| Macmurtrie, Wm. | 288/113 | Wellington | 1-7-1900 to 30-6-1925 | 36,960 | 14,517 |
| Ainslie, James | 291/113 | Wellington | 1-1-1901 to 31-12-1925 | 17,920 | 17,319 |
| Millars' T. & T. Co., Ltd. ... | 296/113 | Wellington | 1-1-1900 to 31-12-1924 | 11,520 | 4,146 |
| Millars' T. & T. Co., Ltd. ... | 297/113 | Wellington | 1-1-1900 to 31-12-1924 | 13,440 | 12,771 |
| Ainslie, James | 299/113 | Murray | 1-7-1900 to 30-6-1925 | 19,840 | 18,795 |
| McNeil, Alexander James ... | 309/113 | Wellington | 1-4-1901 to 31-3-1926 | 21,310 | 793 |
| Wittenoom, Edward Horne ... | 322/113 | Murray and Wellington | 1-4-1902 to 31-3-1927 | 44,800 | 20,000 |
| Wittenoom, Edward Horne ... | 325/113 | Wellington | 1-4-1902 to 31-3-1927 | 1,280 | 1,202 |
| Smith, Henry Teesdale ... | 330/113 | Murray | 1-7-1902 to 30-6-1927 | 10,240 | 7,794 |
| Smith, Henry Teesdale ... | 331/113 | Murray | 1-1-1903 to 31-12-1927 | 9,600 | 7,194 |
| | | | Total | 409,020 | 249,051 |

APPENDIX 3A—continued.

SAW MILL PERMITS.

| Permit Holder. | Original No. | Regranted as No. | Locality. | Term. | Original Area. | Present Area. |
|---|--------------|------------------|----------------------------------|------------------------|----------------|---------------|
| Whittaker Bros. | 1/11 | 76/11 | Murray | 1-7-1915 to 30-6-1925 | 20,000 | 20,000 |
| Bunning, Robert | 8/11 | 93/11 | Wellington | 1-10-1916 to 30-9-1926 | 4,700 | 4,700 |
| Bunning Bros., Ltd. | 9/11 | 94/11 | Wellington | 1-10-1916 to 30-9-1926 | 10,000 | 10,000 |
| Preston Valley Saw Mills, Ltd. | 10/11 | 95/11 | Nelson | 1-1-1917 to 31-12-1926 | 10,000 | 19,800 |
| Swan Saw Mills, Ltd. | 13/11 | 91/11 | Preston | 1-7-1917 to 30-6-1927 | 2,633 | 2,633 |
| Swan Saw Mills, Ltd. | 14/11 | 92/11 | Preston | 1-4-1917 to 31-3-1927 | 19,000 | 9,000 |
| Bunning, Robert | 15/11 | 96/11 | Wellington | 1-4-1917 to 31-3-1927 | 5,300 | 5,300 |
| Adelaide Timber Co., Ltd. ... | 16/11 | 90/11 | Wellington | 1-10-1917 to 30-9-1922 | 12,000 | 15,775 |
| Swan Saw Mills, Ltd. | 19/11 | ... | Wellington | 1-7-1908 to 30-6-1918 | 1,000 | 1,000 |
| Bunning Bros., Ltd. | 25/11 | ... | Wellington | 1-8-1908 to 31-7-1918 | 10,000 | 10,000 |
| South-West Timber Hewers' Society | 27/11 | ... | Flora and Fauna Reserves, Collie | 1-1-1909 to 31-12-1918 | 20,001 | 19,706 |
| Port & Co., Ltd. | 34/11 | ... | Murray | 1-7-1910 to 30-6-1920 | 28,510 | 28,510 |
| Timber Corporation, Ltd. ... | 35/11 | ... | Nelson | 1-10-1909 to 30-9-1919 | 6,800 | 6,800 |
| Bunning Bros., Ltd. | 36/11 | 97/11 | Wellington | 1-4-1917 to 31-3-1927 | 10,000 | 10,000 |
| Lewis, Francis Jas.; Reid, F. W. S. | 37/11 | ... | Wellington | 1-1-1910 to 31-12-1919 | 6,000 | 19,730 |
| Wilgarrup Karri and Jarrah Co., Ltd. | 42/11 | ... | Nelson | 1-4-1910 to 31-3-1920 | 23,000 | 23,000 |
| Buckingham Bros. | 44/11 | ... | Wellington | 1-7-1910 to 30-6-1920 | 17,960 | 17,960 |
| South-West Timber Hewers' Society | 60/11 | ... | Wellington | 1-4-1912 to 31-3-1922 | 38,000 | 38,000 |
| The Kauri Timber Co., Ltd. ... | 61/11 | ... | Nelson | 1-1-1912 to 31-12-1921 | 58,000 | 57,910 |
| Bunning, Robert | 63/11 | ... | Wellington | 1-4-1912 to 31-3-1922 | 8,006 | 8,006 |
| South-West Timber Hewers' Society | 69/11 | ... | Murray | 3-4-1913 to 2-4-1918 | 4,997 | 4,997 |
| Trees, Ltd. | 71/11 | ... | Wellington | 1-4-1914 to 31-12-1923 | 20,028 | 20,028 |
| Steere, F. W. | 72/11 | ... | Wellington | 1-7-1914 to 30-6-1924 | 1,500 | 1,500 |
| Minister for Works and Trading Concerns | 73/11 | ... | Palgarup | 1-1-1915 to 31-12-1924 | 7,000 | 7,000 |
| Commissioner of Railways ... | 78/11 | ... | Dwellingup | 1-7-1915 to 30-6-1925 | 81,500 | 81,235 |
| Minister for Works and Industries | 79/11 | ... | Murray | 1-10-1915 to 30-9-1925 | 38,690 | 38,690 |
| Minister for Works and Industries | 80/11 | ... | Wellington | 1-10-1915 to 30-9-1925 | 25,740 | 25,740 |
| Minister for Works and Industries | 81/11 | ... | Murray | 1-10-1915 to 30-9-1925 | 25,878 | 25,878 |
| Minister for Works and Industries | 82/11 | ... | Wellington | 1-10-1915 to 30-9-1925 | 4,750 | 8,000 |
| Buckingham Bros. | 83/11 | ... | Wellington | 1-7-1916 to 30-6-1926 | 25,000 | 25,000 |
| Whittaker Bros. | 84/11 | ... | Murray | 1-1-1916 to 31-12-1925 | 15,350 | 15,430 |
| Minister for Works and Industries | 85/11 | ... | Nelson | 1-7-1916 to 30-6-1926 | 78,000 | 78,837 |
| Minister for Works and Industries | 86/11 | ... | Nelson | 1-7-1916 to 30-6-1926 | 143,000 | 142,736 |
| Westralian Powell Wood Process, Ltd. | 87/11 | ... | Nelson | ... | 15,000 | 15,000 |
| Westralian Powell Wood Process, Ltd. | 88/11 | ... | Nelson | ... | 10,000 | 10,000 |
| Wandoo Timber Co., Ltd. ... | 89/11 | ... | Wellington | 1-10-1916 to 30-9-1922 | 37,000 | 37,000 |
| | | | | Total | 844,343 | 864,901 |

APPENDIX 3A—continued.

HEWING PERMITS.

| Permit Holder. | No. | Locality. | Term. | | Area. |
|-----------------------------------|-----|---------------------|---------|-----------|--------|
| | | | From | To | |
| Johnson, Alfred M. | 1 | Noggerup | 26-2-17 | 26-2-19 | 2,200 |
| Kelly, James F. | 2 | Noggerup | 26-2-17 | 26-2-19 | 2,100 |
| Mathiasen, Charles F. | 3 | Wilga | 26-2-17 | 25-2-18 | 1,075 |
| Plavin, Charles | 4 | Fernbrook | 16-3-17 | 15-3-18 | 4,700 |
| Do. | 5 | Fernbrook | 23-3-17 | 22-3-18 | 2,720 |
| The Kauri Timber Co., Ltd. | 6 | Quigupp | 24-3-17 | 23-3-18 | 3,060 |
| Lyle, Louis L. | 7 | Jarrahwood | 24-3-17 | 23-3-18 | 4,375 |
| Shiells, Charles | 8 | Boyup Brook | 14-4-17 | 13-4-18 | 1,550 |
| Lewis & Reid, Ltd. | 9 | Collie | 18-4-17 | 17-4-18 | 1,650 |
| Forbes, James A. | 10 | Hester | 24-4-17 | 23-4-18 | 285 |
| Stephens, William | 11 | Hester | 24-4-17 | 23-4-18 | 300 |
| Williams, Alfred S. | 12 | Hamel | 27-4-17 | 26-4-18 | 1,590 |
| Do. | 13 | Hamel | 27-4-17 | 26-4-18 | 2,750 |
| Dore, Charles | 14 | Kirupp | 28-4-17 | 27-4-18 | 330 |
| Mathiasen, Charles F. | 15 | Wilga | 9-5-17 | 8-5-18 | 550 |
| Dougal, Andrew | 16 | Brookhampton | 29-9-17 | 28-9-18 | 220 |
| Plazza, Peter | 17 | Dardanup | 1-10-17 | 30-9-18 | 2,640 |
| Dore, Charles | 18 | Kirupp | 5-10-17 | 4-10-18 | 1,830 |
| | | | | Total ... | 33,925 |

FIREWOOD PERMITS.

| | | | | | |
|--|-----|-----------------|---------|-----------|-------|
| Prior, Henry C. | ... | Albany | 15-5-17 | 1-6-18 | 340 |
| Fleming, David | ... | Wundowi | 12-7-17 | 31-10-18 | 236 |
| Stubberfield, Richard W., and Georgeff, Michael | 19 | Balcatta | 7-11-17 | 6-11-18 | 240 |
| Do. do. do. | 20 | do. | 7-11-17 | 6-11-18 | 300 |
| | | | | Total ... | 1,116 |

SUMMARY.

| | Original Area. | Present Area. |
|-------------------------------------|------------------|------------------|
| Concessions—Total Areas | 396,000 | 378,139 |
| Leases—Total Areas | 409,020 | 249,051 |
| Saw Mill Permits—Total Areas | 844,343 | 864,901 |
| Hewing Permits—Total Areas | 33,925 | 33,925 |
| Firewood Permits—Total Areas | 1,116 | 1,116 |
| | <u>1,684,404</u> | <u>1,527,132</u> |

APPENDIX 3B.
LIST OF SAWMILLS.

| Name of Sawmill and District. | Type of Mill. | Horse power of Mill. | Average distance stump to landing. | Average distance from Landing to Mill. | Distance from Mill to main-line siding. | Distance from Siding to nearest Port. | Output in loads per day. | Per cent. recovery. | Rate per ton on sawn timber to Port of shipment. | Remarks. |
|--|--------------------------------|----------------------|------------------------------------|--|---|---------------------------------------|--------------------------|---------------------|--|---|
| | | | M. Ch. | M. Ch. | M. Ch. | M. Ch. | | | s. d. | |
| Lewis & Reid, Collie | Twin saws | 32 | 0 60 | 2' 40 | 6 60 | 38 0 | 14½ | 42½ | 6 0 | |
| Bunning Bros., Collie | do. | 80 | 1 0 | 2 0 | 6 60 | 48 0 | 20 | 46 | 7 1 | |
| Adelaide Timber Co., Wilga | do. | 24 | 2 0 | No bush landing | 0 2 | 57 0 | 11 | 44 | 8 7 | |
| Kauri Timber Co., Barrabup | Vertical | 90 | 1 0 | 16 0 | 7 0 | 34 0 | 45 | 44 | 6 0 | Closed down. |
| Kauri Timber Co., Ellis Creek | Band Saw | 85 | 1 0 | 5-6 0 | 15 0 | 34 0 | 40 | 44 | 6 10 | |
| Wilgarrup Kauri and Jarrah Co., Jamadup | Vertical Saw | 75 | 0 30 | 5 0 | 0 15 | 93 0 | 39 | 39.30 | 9 10 | do. |
| Bunning Bros., Argyle | Twin Saws | 50 | 1 0 | 6 0 | 0 10 | 21 0 | 14 | 43 | 4 4 | do. |
| Preston Valley Sawmills, Noggerup | do. | 36 | 0 60 | 4 0 | 0 6 | 48 0 | 20 | 43 | 7 8 | do. |
| Swan Saw Mills, Lowden | do. | 48 | 1 0 | 6 0 | 1 20 | 35 0 | 30 | 44 | 5 8 | do. |
| Donnybrook Sawmills, Donnybrook | do. | 9 | 1 0 | No landing | 1 0 | 29 40 | * | 42 | 5 2 | Working on private property. |
| Buckingham Bros., Muja | do. | 26 | 1 0 | 3 40 | 0 60 | 53 0 | 6 | 51½ | 7 3 | |
| Lion Sawmills, Lion Mill | Band Saw | ... | 1 40 | 7 0 | 0 20 | 37 0 | 20 | ... | 5 10 | Working on private property. |
| Whittaker Bros., North Dandalup | Twin Saws | 60 | 0 70 | 9 0 | 3 60 | 46 0 | 31. | 53 | 6 8 | |
| J. H. Patterson, Amphion | do. | 30 | 1 0 | 2 0 | 0 40 | 90 0 | 12 | 45 | 11 6 | |
| State Mill, Waraming | do. | 30 | 1 0 | No bush landing | 1 0 | 92 0 | 19½ | 47 | 11 10 | Closed down. |
| Railway Department, Mill No. 2, Dwellingup | do. | 100 | 1 0 | 4 0 | 5 0 | 97 0 | 49 | 47 | ... | Not exported. |
| Port & Co., Pindalup | Horizontal | 30 | 1 0 | 2 0 | Alongside main line | 90 0 | 13 | 51 | 11 8 | |
| State Mill, Manjimup | Vertical and Twin | 100 | 0 60 | 1-12 0 | 3 60 | 90 0 | Not supplied | Not supplied | 10 8 | |
| State Mill, Pemberton, No. 2 | do. | 100 | 0 40 | 1-12 0 | 19 0 | 93 0 | do. | do. | 9 10 | Only one working. |
| State Mill, Pemberton, No. 3 | Twin Saws | 100 | 0 40 | 1-12 0 | 19 0 | 93 0 | do. | do. | 9 10 | Working intermittently. |
| Smith's Mill, Winnigup Road | Circular Saw | 10 | + 0 40 | ... | 3 40 | 62 0 | 20 (per month) | 70 | 7 11 | |
| Ryan's Mill, Jayes Road | do. | 12 | + 0 40 | ... | 2 0 | 67 0 | 6 | 40 | 8 4 | do. |
| S.W. Timber Hewers' Co-operative Society, Ltd., Holyoake | ... | ... | 0 40 | 7 0 | On main line | 78 0 | 40 | 48 | 9 0 | |
| Denmark Timber Co., Denmark | Twin Saws | 16 | 3 0 | landing at Mill | 2 40 | 30 0 | 10 | 50 | ... | Does not export Jarrah. Cutting for fruit cases and local orders. Cutting on private property. Closed down. |
| C. Firms, Serpentine | do. | 13 | ... | ... | 5 0 | ... | 4 | ... | ... | |
| Timber Corporation, Ltd., Greenbushes | Vertical Saw | 60 | 2 0 | 6-15 0 | 2 0 | 52 0 | 45 | 40 to 45 | 7 1 | |
| Millars' Timber and Trading Co., Jarrahdale | Twin Saws—2 mills | ... | 0 40 | 16 0 | 7 0 | 30 0 | 80 | 45.5 | 5 3 | |
| Millars' Timber and Trading Co., Wellington | Twin Saws and Vertical Saw | ... | 0 40 | 6 0 | 13 0 | 9 0 | 60 | 51.5 | 2 6 | |
| Millars' Timber and Trading Co., Canning | Twin Saw—2 mills | ... | 0 40 | 2 0 | 9 0 | 38 0 | 25 | 44 | 5 11 | Closed down. |
| Millars' Timber and Trading Co., Murrinup | Twin Saws | ... | 0 40 | 4 0 | On main line | 68 0 | 26 | 44 | 8 9 | do. |
| Millars' Timber and Trading Co., Yarloop | Vertical and Twin Saw combined | ... | 0 40 | 8 0 | 9 0 | 37 0 | 65 | 44 | 5 10 | do. |
| Millars' Timber and Trading Co., Nanga Brook | Twin Saws | ... | 0 40 | 8 0 | 28 0 | 37 0 | 50 | 44 | 5 10 | do. |
| Millars' Timber and Trading Co., Mornington | Vertical Saw and Twin Saws | ... | 0 40 | 12 0 | 6 0 | 26 0 | 85 | 44 | 4 11 | do. |
| Millars' Timber and Trading Co., Kirrup, East | Vertical and Twin Saws | ... | 0 40 | 4 0 | 12 0 | 37 0 | 68 | 44 | 5 10 | do. |
| Millars' Timber and Trading Co., Jarrahwood | Twin Saws | ... | 0 40 | 7 0 | On main line | 28 0 | 30 | 44 | 5 1 | do. |
| Railway Department, Midland Junction | Band Saws | 80-100 | ... | ... | ... | ... | 10 | 50-60 | ... | Cutting Tuart and Wandoo. Closed down. |
| Railway Department, No. 1 Mill, Dwellingup | Twin Saws | 35 | 0 60 | 4 40 | 0 2 | 70 0 | 12 | 48 | 8 7 | Cutting on private property. |
| Coolup Milling Co., Coolup | Circular Saw | 14 | 0 60 | ... | 4 0 | 53 0 | 3½ | 60 | 7 2 | |
| Bethell's Mill, Donnelly River | Twin Saws | 18 | 0 50 | Landing at Mill | 12 40 | 76 0 | 10 | 52 | 1 11 | Closed down. |

* 200 flat fruit cases. † Stump to mill.

APPENDIX 3c.

Return of Licenses issued during the Year ended 31st
December, 1917.

| | | | |
|------------------------------------|-----|-----|--------|
| Woodcutters' Licenses | ... | ... | 12,235 |
| Sandalwood Licenses | ... | ... | 391 |
| Timber Licenses | ... | ... | 3,440 |
| Mining Timber Licenses | ... | ... | 236 |
| Sleeper Hewers' Licenses | ... | ... | 605 |
| Mallet Bark Licenses | ... | ... | 82 |
| Pile and Balk Licenses | ... | ... | 93 |
| Blackboy and Kingia Grass Licenses | ... | ... | 4 |
| Total | ... | ... | 17,986 |

APPENDIX 4.

List of Herbarium Specimens collected during 1917, and
identified by the Government Botanist.

| Botanical Name. | Local Name. |
|---|----------------------------------|
| Acacia aciphylla, Benth. | Wattle. |
| acuminata, Benth. | Raspberry Jam. |
| aneura, F. v. M. | Mulga (Round Leaf). |
| colletoides, A. Cunn. | Prickly Wattle. |
| Drummondii, Lindl., var. parviflora, Benth. | Wattle. |
| erinacea, Benth. | Wattle. |
| lasiocalyx, C. Andrews | Wattle. |
| microbotrya, Benth. | Manna Wattle. |
| microneura, Meissn. | Goldfields Jam. |
| neurophylla, W. V. Fitz. | Wattle. |
| Rossei, F. v. M. | Wattle. |
| stereophylla, Meissn. | Mulga (Narrow Leaf). |
| Agonia marginata, Schau | Arnica. |
| Alyxia buxifolia, R. Br. | Camel Bush. |
| Atriplex nummularia, Lindl. | Old Man Salt Bush. |
| Banksia Baxteri, R. Br. | Banksia. |
| Brownii, Baxt. | Banksia Shrub. |
| littoralis, R. Br. | Swamp Banksia. |
| marginata, Cav. | Banksia. |
| occidentalis, R. Br. | Banksia Shrub. |
| prionotes, Lindl. | Banksia. |
| quercifolia, R. Br. | Banksia Shrub. |
| verticillata, R. Br. | River Banksia. |
| Beaufortia anisandra, Schau | |
| squarrosa, Schau | |
| sparsa, R. Br. | Bottle Brush. |
| Boronia gracilipes, F. v. M. (Affin.) | |
| languinosa, Endl. | |
| Callistemon Phœniceus, Lindl. | Bottle Brush. |
| Callitris glauca, R. Br. | Goldfields Cypress Pine |
| Cassia eremophila, A. Cunn. | |
| Casuarina humilis, Otto & Diel | Sheoak Shrub. |
| Clianthus Dampieri, A. Cunn. | Sturt Pea. |
| Codonocarpus cotinifolius, F. v. M. | Mustard Tree. |
| Cyanostegia lanceolata, F. v. M. | |
| Dodonaea lobulata, | |
| Eremophila oppositifolia, R. Br. | |
| Oldfieldii, F. v. M. | |
| Paisleyi, F. v. M. | |
| Eucalyptus accedens, W. v. Fitz. | Powder Bark Wandoo |
| calycogona, Turcz. | |
| calycogona, Turcz., var. celastroides, Maid. | Mallee, Snap and Rattle. |
| Eucalyptus calycogona, Turcz., v. r. gracilis, Maiden | Snap and Rattle. |
| campaspe, S. le M. Moore, | Gimlet Wood. |
| Clelandi, Maiden | Goldfields' Blackbutt. |
| cornuta (Lab.), var. symphyocarpa, F. v. M. | Bald Island Marluck. |
| corrugata, Leuhn | Goldfields Blackbutt. |
| decepiens, Endl. | Flooded Gum. |
| decurva, F. v. M. | Mallee. |
| ficifolia, F. v. M. | Red Flowering Gum. |
| Guildfoylei, (Maid.) | Yellow Tingle Tingle. |
| Griffithsii (Maid.) | White Gum. |
| hæmotoxylon, Maiden | Mountain Red Gum. |
| incrassata, Lab. | Mallee. |
| incrassata, Lab., var. angulosa, Benth. | Mallee. |
| incrassata, Lab., var. dumosa, Maid. (Affin.) | Mirret or Ribbon Tree |
| Jacksoni, Maiden | Red Tingle Tingle. |
| leptopoda, Benth | Silver Mallet. |
| marginata, Sm., var. Staeri, Maid. | Coastal Blackbutt. |
| macrocarpa, Hook. | Mottlear, Sand Plain Gum. |
| occidentalis, Endl. | Brown Mallet. |
| occidentalis, var. eremophila, Diels. | Mallee. |
| oleosa, F. v. M. | Black Morrell. |
| oleosa, F. v. M., var. glauca, Maid. | Blackbutt, Red-wood. |
| oleosa, F. v. M., var. longicornis, Maid. | Morrell. |
| obcordata, Turcz | Round-Leaf Moort. |
| Preissiana, F. v. M. | Mallee. |
| pyriformis, Turcz. | Yellow and Red Flowering Mallee. |
| redunca, var. elata | White Gum, Wandoo. |
| salmonophloia, F. v. M. | Salmon Gum. |
| salubris, F. v. M. | Gimlet-Wood. |
| tetragona, F. v. M. | Mallee. |
| tetraptera, Turcz. | Red Flowering Mallee. |
| Toddiana, F. v. M. | Prickly Bark. |
| torquata, Leuhn. | Goldfields Red Flowering Gum. |
| Fusanus acuminatus, R. Brown | Quandong. |
| Gastrolobium calycinum, Benth. | Bullock Poison. |
| Grevillea eriostachya, Lindl. | |
| petrophiloides, Meissn. | |
| Hakea Cunninghami, R. Br. | Cork Tree. |
| laurina, R. Br. | Emu Tree. |
| linearis, R. Br. | |
| multilineata, Meissn. | Emu Tree. |
| platysperma, Hook. | |
| Preissii, Meissn. | Needle Tree. |
| sulcata, R. Br. var. scoparia (Meissn.), Benth. | |
| varia, R. Br. | |
| Helichrysum lepidophyllum, F. v. M. | |
| Isopogon latifolius, R. Br. | |
| Lambertia inermis, R. Br. | |
| Leucopogon strictus, Benth. | |
| Melaleuca acerosa, Schau (Affin.) | Tea Tree. |
| Huegii, Endl. | Tea Tree. |
| striata, Labill. | Tea Tree, Paper Bark. |
| Phebalium tuberculosum, Benth. | |
| Santalum cygnorum, Miq. | Sandalwood. |
| Sterculia Gregorii, F. v. M. | Kurrajong. |
| Xanthosia rotundifolia, D.C. | Southern Cross. |

APPENDIX 5.

TREES RAISED AND DISTRIBUTED AT HAMEL STATE NURSERY DURING THE YEAR 1917.

| Species and Variety. | Vernacular Name. | No. on hand at 1st Jan., 1917. | No. raised in 1917. | No. distributed in 1917. | No. on hand at 31st Dec., 1917. |
|------------------------------|------------------------------|--------------------------------|---------------------|--------------------------|---------------------------------|
| Acacia acuminata | Raspberry Jam Wood ... | ... | 70 | ... | 70 |
| „ Baileyana | Cootamundra Wattle ... | 3,875 | 2,150 | 2,703 | 3,322 |
| „ dealbata | Silver | 2,000 | 392 | 2,000 | 392 |
| „ decurrens | Black | 3,898 | 186 | 2,888 | 1,196 |
| „ elata | Broad-leaved | 75 | 400 | 75 | 400 |
| „ melanoxylon | Blackwood | ... | 256 | ... | 256 |
| „ podalyriifolia | Queensland Wattle ... | 840 | 197 | 658 | 379 |
| „ pycnantha | Golden | 4,472 | 1,145 | 3,643 | 1,974 |
| „ saligna | Coastal | 800 | 127 | 800 | 127 |
| „ assorted | | 157 | 625 | 157 | 625 |
| Agonis flexuosa | Peppermint | 975 | 1,480 | 885 | 1,570 |
| Amygdalis communis | Almond Tree | 24 | 32 | ... | 56 |
| Araucaria Bidwilli | Bunya-Bunya | 214 | ... | 124 | 90 |
| „ Cunninghamsi | Moreton Bay Pine ... | 12 | ... | 12 | ... |
| „ excelsa | Norfolk Island Pine ... | 633 | ... | 21 | 612 |
| Callitris robusta | Cypress Pine | ... | 422 | ... | 422 |
| Casuarina stricta | Drooping Sheoak | ... | 206 | ... | 206 |
| Casuarina sp. | | 50 | ... | 50 | ... |
| Ceratonia siliqua | Carob Bean | 1,096 | 2,395 | 928 | 2,563 |
| Cinnamomum camphora | Camphor Laurel | 2,519 | 1,133 | 1,234 | 2,418 |
| Cupressus Benthamsi | Benthams' Cypress ... | 940 | 370 | 940 | 370 |
| „ glabra | | 120 | ... | 120 | ... |
| „ Knighti | Knight's Cypress | ... | 285 | ... | 285 |
| „ lusitanica | Busaco Cedar | 546 | 4,455 | 546 | 4,455 |
| „ macrocarpa | Monterey Cypress | 9,087 | 34,100 | 6,689 | 36,498 |
| „ sempervirens | Common | 2,890 | 1,000 | 550 | 3,340 |
| „ torulosa | Nepal | 1,329 | 1,285 | 1,329 | 1,285 |
| Dracaena draco | Dragon's Blood Tree ... | 270 | 76 | 270 | 76 |
| Erythrina indica | Coral Tree | 91 | ... | 11 | 80 |
| Eucalyptus ficifolia | Red Flowering Gum ... | 7,025 | 1,017 | 6,755 | 1,287 |
| „ botryoides | False Mahogany | ... | 469 | ... | 469 |
| „ globulus | Blue Gum | 3,950 | 483 | 3,830 | 603 |
| „ macrocarpa | Sand Plain Gum | ... | 525 | ... | 525 |
| „ citriodora | Lemon Scented Gum ... | 3,050 | 475 | 3,050 | 475 |
| „ melliadora | Yellow Box | ... | 196 | ... | 196 |
| „ tetraptera | Broad-leaved Mallee ... | ... | 80 | ... | 80 |
| „ marginata | Jarrah | ... | 19 | ... | 19 |
| „ megacarpa | W.A. Blue Gum | ... | 22 | ... | 22 |
| „ patens | Blackbutt | ... | 4 | ... | 4 |
| „ gomphocorymbosa | Tuart | ... | 27 | ... | 27 |
| „ cornuta | Yate | ... | 19 | ... | 19 |
| „ occidentalis | Mallet | ... | 37 | ... | 37 |
| „ salmonophloia | Salmon Gum | ... | 10 | ... | 10 |
| „ redunda | Wandoo | ... | 19 | ... | 19 |
| „ salubris | Gimlet | ... | 9 | ... | 9 |
| „ oleosa | | ... | 8 | ... | 8 |
| „ corynocalyx | Sugar Gum | 9,696 | 7,360 | 9,696 | 7,360 |
| | Goldfields Red Flowering Gum | ... | 78 | ... | 78 |
| | Red Flowering Mallee ... | ... | 15 | ... | 15 |
| | Yellow Flowering Mallee ... | ... | 3 | ... | 3 |
| Eucalyptus Assorted | | ... | 2,500 | ... | 2,500 |
| Ficus australis | Port Macquarie Fig ... | 3,892 | 180 | 1,698 | 2,374 |
| „ macrophylla | Moreton Bay Fig | 4,315 | 110 | 1,547 | 2,878 |
| Grevillea robusta | Silky Oak | 1,074 | 104 | 454 | 724 |
| Hakea eucalyptoides | Flowering Hakea | ... | 540 | ... | 540 |
| Jacaranda mimosifolia | | 234 | 11 | 234 | 11 |
| Juglans nigra | | ... | 280 | ... | 280 |
| Juniperus Bermudiana | Bermuda Pencil Cedar ... | ... | 100 | ... | 100 |
| Lagunaria Patersoni | Pyramid Tree | 596 | 490 | 346 | 740 |
| Melia azedarach | Pride of India | 7,496 | 3,500 | 5,406 | 5,590 |
| Pittosporum undulatum | Cheesewood | 2,875 | 2,795 | 2,805 | 2,865 |
| Phoenix dactylifera | Date Palm | 180 | ... | 180 | ... |
| Passiflora edulis | Passion fruit | 110 | ... | 110 | ... |
| Prosopis juliflora | Algaroba | 31 | ... | 31 | ... |
| Platanus occidentalis | Plane Tree | 12,900 | 100 | 400 | 12,600 |
| Pinus canariensis | Canary Island Pine | ... | 800 | ... | 800 |
| „ pinaster | Cluster Pine | 8,030 | 24,900 | 8,030 | 24,900 |
| „ insignis | Monterey Pine | 173,764 | ... | 154,964 | 18,800 |
| „ halepensis | Aleppo Pine | 70,950 | 400 | 6,350 | 65,000 |
| Quercus suber | Cork Oak | 350 | ... | 65 | 285 |
| „ lusitanica | Portuguese Oak | 198 | 526 | 54 | 670 |
| Robinia pseudo acacia | False Acacia | 2,736 | 1,800 | 2,736 | 1,800 |
| Schinus molle | Pepper Tree | 8,425 | 1,140 | 8,345 | 1,220 |
| Sterculia hetrophylla | Kurrajong | 5,380 | 1,500 | 2,880 | 4,000 |
| „ acerifolia | Queensland Flame Tree ... | 128 | 380 | 110 | 398 |
| Syncarpia laurifolia | Turpentine | 120 | 233 | 113 | 240 |
| Thuya orientalis | Arbor Vitae | ... | 203 | ... | 203 |
| „ occidentalis | Arbor Vitae | 1,772 | 475 | 308 | 1,939 |
| Tristania conferta | | 392 | 310 | 254 | 448 |
| Virgilia capensis | | 50 | ... | 50 | ... |
| | Totals | 366,632 | 107,039 | 247,434 | 226,237 |

APPENDIX 5—continued.

The number of Trees on hand at 1st January, 1917, was made up as follows:—

| | |
|--|---------|
| In trays | 52,050 |
| In pots | 24,279 |
| In large pots | 283 |
| Open, rooted in Nursery lines | 194,565 |
| Unspecified, not available for distribution in 1917 | 95,455 |
| | <hr/> |
| | 366,632 |

The Trees distributed in 1917 were disposed of as follows:—

| | |
|-------------------------------------|---------|
| Sold to public | 66,133 |
| Free distributions | 8,811 |
| Raised for Ludlow Plantation | 122,770 |
| Otherwise disposed of | 49,720 |
| | <hr/> |
| | 247,434 |

The number of Trees on hand at 31st December, 1917, was made up as follows:—

| | |
|---|---------|
| In trays | 68,650 |
| In pots | 15,892 |
| In large pots | 2,115 |
| Open rooted in Nursery lines | 126,976 |
| Unspecified, unavailable for 1918 distribution | 12,604 |
| | <hr/> |
| | 226,237 |