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1919.

WESTERN AUSTRALIA.

REPORT

OF

THE WOODS AND FORESTS DEPARTMENT

FOR THE

HALF-YEAR ENDED 30TH JUNE, 1918.

PERTH :

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1919.



REPORT OF THE WOODS AND FORESTS DEPARTMENT FOR THE HALF-YEAR ENDED 30th JUNE, 1918.

CLASSIFICATION OF FORESTS.

The work of classifying the jarrah country in the South-West Division has been continued. Two camps have been employed, and these worked over an area of 369,000 acres during the six months under report. As foreshadowed in the Annual Report for 1917, the area of virgin forest is exceedingly small. No large areas whatever were found North of the Preston railway.

RESERVATIONS.

The total area of reservations, namely 9,908 acres, has not been increased.

FOREST WORK.

Owing to lack of funds, no forest work could be carried out.

LEGISLATION.

The Government decided that a Forest Bill would be introduced during the autumn session of 1918.

The new Timber Regulations were gazetted on the 1st January, and the most important of these was the introduction of the registration of timber workers in lieu of the old monthly license system. Now that the only system under which forest produce can be obtained is under permit, there is no necessity for licenses, and the annual registration which provides for the names, addresses, and occupations of the various timber workers engaged in the forests being registered at the head office is sufficient to meet all requirements. The cost of this registration is at present £1 10s., with a rebate of 10s. for the period of the war.

In view of the fact that royalty is collected on all forest produce obtained, it is to be hoped that this registration fee will be reduced to a nominal sum in the near future.

FOREST RANGING AND TIMBER INSPECTION.

The separation of the ranging branch from the timber inspectors has proved satisfactory. The rangers have had more time to devote to the important work of controlling the timber cutters and sawmillers, while a uniform and satisfactory system of inspection has been established under the Chief Timber Inspector.

PLANTATION AND NURSERY WORK.

Ludlow Plantation.—Twenty acres of cluster pine were planted at Ludlow. Also the portion of the plantation which was planted with *insignis* in 1914 was undersown with seed of the cluster pine. The small flying nursery has proved satisfactory, and it will be possible to raise all the cluster pine necessary for the filling up of the plantation.

Plantation North of Perth.—The site for this plantation was gone over more carefully, and finally it was decided to carry out a preliminary survey with a view to discovering the best situation for the tramline which is to connect the metropolis with the plantation. An area of 10 square miles was surveyed, and the preliminary survey of the tramline was executed. The construction of this should present very little difficulty, as the nature of the country is generally undulating, requiring, for the greater part, merely surface formation for railway construction.

Some small experimental work was carried out with a view to determining the best system of dealing with the area. It is probable that it will be necessary to totally clear the ground, plough and harrow and sow *in situ*. The banksia timber now growing on the area amounts to about five cords to the acre which, with the close proximity of the metropolitan fuel market, should be sufficient to repay the cost of clearing.

Hamel Nursery.—A large assortment of trees has been raised in the nursery for distribution, and, judging by the number that have already been distributed, the success of the system of selling trees at cost price, which was inaugurated last year, would seem to be assured. In Appendix 5 will be found a list of the trees in the nursery.

FOREST APPRENTICES.

Of the two apprentices who had completed their first year in the nursery and passed the necessary examination, one was transferred to forestry work under a district ranger, while the other has continued in the nursery and plantation.

THE TIMBER INDUSTRY.

The shortage of ships, due to the war, has kept the timber industry in a very depressed condition. The Eastern States have suffered a great deal through the lack of imported timber from America, with the result that our timbers have found a better market in South Australia and Victoria than before. There is no doubt that, had more interstate shipping been available, a very large trade might have been established with the Eastern States. As it is, karri has sprung into wonderful prominence in South Australia, and the manager of the State Sawmills is to be congratulated on having succeeded in demonstrating the fine qualities of this structural timber to the timber merchants of that State.

In Appendix 3A will be found a list of timber concessions, timber leases, sawmill permits, and permits issued under the new regulations. It will be seen that there are a large number of hewing permits being worked on Crown lands. The object of these permits is to confine the hewer to forest which is really hewing country, that is to say where it pays better to take the axe to the tree than the tree to the mill.

There is no doubt that hewing is the most wasteful form of conversion, for the hewer only recovers, at the best, 30 per cent. of the round log. In comparing hewing with milling there is a loss in economic wealth to the State of £1 for every load of timber hewn.

The hewers made representations that the class of forest opened up for hewing was so poor as to make it impossible for the men to earn a living. An inspection was made by the writer, who found that in every case the class of forest was not in reality hewing country, but poor milling country suitable for conversion by small mills. The hewers have been accustomed during the years immediately prior to the war to operating practically in any part of the country that they had a mind to, and have in consequence earned as high wages as £1 a day. It is only natural that they should desire forest of the same quality as they worked in in the past. At the same time it would be a crime against future generations to allow valuable timber to be exploited in this manner. It is to be hoped that in the Forests Bill which is to be introduced next session, the operations of the hewer will be restricted so as to prevent his operating in the prime jarrah belt.

FIREWOOD PERMITS.

It will be seen that six firewood permits have been granted in various parts of the country. It is the policy of the Department, as far as is practicable, to do away with the license system, under which firewood cutters roamed where they liked through the forest, and to substitute the permit system under which a man holds a certain area of country under conditions which permit a proper control of his operations.

Of the new sawmilling permits issued, the only one of any extent is that at Mt. Leonard, issued to Millars' Timber and Trading Company. This was granted in order to enable the Wellington Mill, which had practically cut out all the leasehold country in the neighbourhood, to continue operations.

Drying Kiln.—A drying kiln on the lines of the one invented by Mr. Tiemann, Timber Physicist and Kiln Expert of the Forests Products Laboratory of Madison, Wisconsin, was erected through the courtesy of Millar's Timber and Trading Company in their yard in Nash Street, Perth. A series of experimental charges have been put through the kiln, and the results obtained were encouraging. One-inch and two-inch thick timber was treated, but the demand for large-sized timber, which arose through the formation of the Western Australian Shipbuilding Company, made it necessary to erect two larger kilns, which were established in the grounds of the Engineering School of the Western Australian University. It is proposed to dry timber of large dimensions, 8in. by 3in. and 9in. by 4in. jarrah, etc., suitable for ship planking, in these kilns. The department was greatly indebted to Mr. A. Tomlinson, Acting Professor of Engineering of the University, for his active co-operation in the kiln-drying experiments.

SHIPBUILDING.

After prolonged negotiations with the Federal Government regarding the establishment of a shipbuilding yard in Western Australia, a company was formed in June for the building of six ships for the Commonwealth Government. The ships are to be constructed mainly of jarrah, while karri will be used for deck beams and similar structural work above the water line. There is no doubt that, with our large output of raw material which must be sent overseas, the establishment of a shipbuilding yard is a necessity, and it is to be hoped that the work of construction will begin as soon as possible.

REVENUE AND EXPENDITURE.

The revenue derived from all sources amounted to £22,113, being £4,000 in excess of the previous half-year. The expenditure amounted to £6,199. These amounts will be found itemised in Appendices 1A and 1C, while a statement of revenue collected since the inception of the Department will be found in Appendix 1D.

BOTANICAL.

A number of additions were made to the herbarium. These will be found enumerated in Appendix 4.

TANBARKS.

The local export of tanbarks has been confined to the other States of the Commonwealth, and has been small in extent. The investigation into redgum tannage was continued. The Government Analyst failed to eliminate the red-coloured matter, which is the chief trouble with this otherwise satisfactory tanning agent.

The Government, on the advice of the Tanning Committee of the Commonwealth Advisory Council of Science and Industry, decided to appoint an expert leather chemist to undertake the work. The position has accordingly been advertised.

SANDALWOOD AND SANDALWOOD OIL.

The export sandalwood trade has increased, 111,000 cwts., valued at £70,000, having been exported during the six months under review. The qualities of the Western Australian sandalwood oil are rapidly becoming better known, with the result that 3,500lbs. of crude oil were exported during the half year.

September, 1918.

C. E. LANE-POOLE,

Conservator of Forests.

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APPENDIX 1A.

Revenue for Half-year ending 30th June, 1918.

LICENSES—	£	s. d.	£	s. d.
Woodcutters'	315	12 0		
Sandalwood	23	6 0		
Timber	4	15 0		
Mining Timber	19	0 0		
Mallet Bark	3	15 0		
Pile and Balk	0	2 6		
Sleeper Hewers	0	10 0		
Total			367	0 6

ROYALTY ON LOGS—	£	s. d.	£	s. d.
Jarrah	8,593	13 10		
Karri	3,075	19 11		
Tuart	20	0 5		
Pine Thinnings	141	1 9		
Sheaoak	2	17 6		
Total			11,833	13 5

ROYALTY ON HEWN SLEEPERS—	£	s. d.	£	s. d.
At 4s. 7d. per load	6	17 11		
At 4s.	147	10 8		
At 3s. 9d.	14	4 8		
At 3s. 6d.	15	0 10		
At 3s. 3d.	47	8 2		
At 3s.	50	15 4		
At 2s. 6d.	119	11 3		
At 2s.	57	11 11		
Total			459	0 9

ROYALTY ON—	£	s. d.	£	s. d.
Piles and Poles	988	8 0		
Beams	173	19 3		
Sandalwood	1,486	2 5		
Firewood	45	11 5		
Posts	0	6 3		
Total			2,694	7 4

INSPECTION FEES ON—	£	s. d.	£	s. d.
Hewn Sleepers from Crown Lands	171	18 8		
Sawn Sleepers from Crown Lands	145	2 10		
Sawn Timber from Crown Lands	66	8 7		
Hewn Sleepers from Private Property	95	12 2		
Sawn Sleepers from Private Property	34	12 5		
Sawn Timber from Private Property	4	2 10		
Beams	39	4 1		
Piles and Poles	33	12 11		
Total			590	14 6

Miscellaneous	60	0 0		
	21	19 7		
Freight and Postage	16	16 9		
			60	0 0
			21	19 7

Timber Workers' Registration Fees	421	0 0		
Brand Hammer Registration Fees	11	0 0		
Rents, Hamel	13	10 0		
Rents collected on Tuart Reserves	12	19 6		
Sale of Branding Hammers	7	4 0		
Sale of Trees	172	18 5		
Sale of Timber Regulations	2	5 0		
Sale of D. E. Hutchen's Report on Australian Forestry	10	4 0		
Sale of Julius' Timber Tests	1	0 0		
Sale of Seeds	0	18 8		
Sale of Photos	0	12 3		
Rents on Timber Leases, Tramway Lines, and Saw Mill Sites	5,415	17 0		
Totals			£22,113	1 8

APPENDIX 1B.

Trust Fund.

Particulars—	£	s. d.	£	s. d.
Sleeper Hewers' Deposits	2	0 0		
Branding Hammer Deposits	0	6 0		
Miscellaneous Refunds	1,111	5 6		
Total			£1,113	11 6

APPENDIX 1c.

Expenditure for Half-year ending 30th June, 1918.

Particulars—	£	s. d.	£	s. d.
Salaries and Allowances	4,392	6 11		
Incidentals	895	8 8		
Maintaining Hamel State Nursery	295	9 11		
Forestry Conference	378	7 2		
Workers' Compensation	16	4 3		
Furniture	121	5 0		
Tuart Reserve, Interest on	100	0 0		
Total			£6,199	1 11

APPENDIX 1d.

Revenue and Expenditure.

The following statement shows the Revenue and Expenditure of the Department since its inception in 1895:—

Year.	Revenue.	Expenditure.
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	29,320 12 10	9,575 3 2
1st Jan. to 31st Dec., 1917	36,128 17 11	10,263 2 5
6 months, 1st Jan. to 30th June, 1918	22,113 1 8	6,199 1 11
	£637,514 8 0	£154,402 8 5

It will be seen from the above statement that to the 30th June, 1918, the revenue exceeded the expenditure by the large sum of £483,111 19s. 7d.

APPENDIX 1E.

Statement of Revenue collected by the Inspection Branch of the Woods and Forests Department during the six months ending 30th June, 1918:—

Revenue.	Inspection Fees.		
	Loads.	Rate.	Amount.
Sawn Jarrah, heart out	6,514	s. d. 0 9	£ 244 5 6
Hewn Jarrah, heart out	6,009	1 0	300 9 0
Jarrahs in ft.	5,286	0 1	22 0 6
Do.	467	0 1	1 18 11
Do.	2,097	0 2	17 9 6
Do.	1,438	0 1½	7 19 9
Do.	325	0 3½	4 10 3
Do.	120	0 2½	1 6 8
Total			£600 6 1

APPENDIX 1F.

Loan Expenditure for half-year ending June 30th, 1918.

	£	s.	d.
Classification	866	8	9
Erection of Dry Kiln	75	9	5
Pine Planting	260	14	10
Testing Powellised Timber	127	12	0
Advertising generally	85	5	3
Total	£1,415	10	3

APPENDIX 2A.

Production of Timber for half-year ended 30th June, 1918.

MAJOR FOREST PRODUCE.

Obtained from Crown Lands.

	Mill.	Logs.
	Loads	cubic feet
Jarrah	72,538	3,629,400
Karri	31,602	1,580,100
Tuart	80	4,000
Total	104,270	5,213,500

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., and Tuart, 50 per cent., so that the above total represents, in sawn timber, 43,765 loads, or 2,188,250 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, Sawmill Permits, etc., inspected and uninspected, on which royalty has been paid ...	4,035	201,750
From Private Property, Leases and Concessions—Inspected	1,983	99,150
Total	6,018	300,900

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 24,072 loads, or 1,203,600 cubic feet in the log.

APPENDIX 2C.

Total Timber Production.

	In the Log.		In the square.	
	loads.	cub. ft.	loads.	cub. ft.
Total Milling Timber	104,270	5,213,500	43,765	2,188,250
Total Hewing Timber	24,072	1,203,600	6,018	300,900
	128,342	6,417,100	49,783	2,489,150

APPENDIX 2D.

Round Piles and Poles... .. 52,435 running feet.

APPENDIX 2E.

Mining Timber and Firewood for half-year ended 30th June, 1918.

	Tons.
Wood fuel consumed on Greenbushes Mining Fields	8,200
Mining timber consumed on Collie Coal Fields	2,244
Wood fuel consumed in Metropolitan Area	75,810
Wood fuel consumed on Golden Mile, Coolgardie, and Norseman Mines	202,274
Mining timber consumed on Golden Mile, Coolgardie, and Norseman Mines	3,430
Wood fuel consumed on Northern Goldfields—Lancefield, Gwalia, Menzies, Ora Banda	44,264
Mining timber consumed on Northern Goldfields	1,020
Wood fuel consumed in Southern Cross Areas—Westonia, Bullfinch, Golden Valley	21,457
Mining timber consumed in Southern Cross Areas Pumping Stations, Goldfields Water Supply, Nos. 5, 6, 7, 8. plus other small pumping plants	1,631
Household wood, Goldfields	4,800
Bakers' wood	20,948
Breweries, Cordial Factories, Electric Light Plants, Batteries (State and Private), outside Golden Mile Batteries	10,100
Engine wood consumed on tramways	3,961
Sleepers	9,374
	500
	*410,013

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

APPENDIX 2F.

Exports of Timber, Tanning Bark, and Sandalwood, for the six months ended 30th June, 1918.

	Quantity.	Value.
Timber, Dressed (other)— Commonwealth of Australia, other States	Super Feet. 180	£ 3
Timber, Undressed (other)— Ocean Island	32,700	217
South African Union	4,973,000	35,069
New Zealand	555,800	3,705
Hong Kong	900	8
Portuguese East Africa	21,800	145
Commonwealth of Australia, other States	20,816,588	137,746
	26,400,788	176,890
Logs, not Sawn— South African Union	46,700	318
Ocean Island	5,900	40
	52,600	358
Palings— Commonwealth States	No. 13,832	100
Shafts, Poles, and Bars— Commonwealth States	1,752	221
Spokes, Rims, and Hubs (Dressed)— Commonwealth States ... ..	...	31
Spokes, Rims, and Hubs (Un- dressed)— Commonwealth States ... ..	...	39
Sandalwood— India	cwt. 2,000	1,275
Straits Settlements	18,502	11,565
Hong Kong	70,384	44,390
China	10,304	6,166
Commonwealth States	10,099	6,792
	111,289	70,188
Bark, Tanning— Commonwealth States	32,137	14,718
Total value of Forest Produce exported ... ..	...	£262,548

APPENDIX 2a.

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	25,235	...	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	...	1914...c	c 125,595	502,153	4,702	39,800	18,197
1869 ...	3,598	14,273	4,124	32,998	...	1915e...	c 190,370	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.

APPENDIX 2H—continued.

Timber Imports for the half-year ended 30th June, 1918.

	Super feet.	£
✓ Dressed—		
Commonwealth of Australia...	220,801	5,815
Cut into shape for making Boxes and Doors—		
Straits Settlements ...	46,400	272
Commonwealth of Australia...	69,863	1,666
	116,263	1,938
Logs not Sawn—		
Java ...	300	4
New Zealand Pine—		
Commonwealth of Australia...	7,145	166
Timber, Undressed, N.E.I.—		
United States ...	3,000	...
Ambon Island ...	13,200	181
Japan ...	2,000	38
Straits Settlements ...	14,000	116
Commonwealth of Australia...	684,519	17,701
	716,719	18,043
Total Super feet	1,061,228	...
✓ Architraves, Mouldings, and Skirtings—		
Commonwealth of Australia...	...	1,527
Bent or cut into shape, dressed or partly dressed—		
United States ...	...	52

	No.	£
Picture and Room Mouldings—		
United States ...	...	509
Commonwealth States ...	...	249
	...	758
Rims and Felloes—		
United States ...	...	61
Commonwealth States ...	...	418
	...	479
Hubs, Elm—	No.	
United States ...	24	6
Hubs, other—		
Commonwealth of Australia...	504	47
Laths for Blinds—		
Commonwealth of Australia...	...	63
Shafts—Poles and Bars—		
United States ...	...	48
Commonwealth of Australia...	...	509
	...	557
Spokes, Hickory —	No.	
United States ...	2,690	30
Spokes, not Hickory—		
Commonwealth of Australia...	23,289	433
Total Value ...	...	£29,918

APPENDIX 3A.

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

The following Return shows the Concessions, Leases, Sawmill Permits, Hewing Permits, Firewood Permits, Sawmilling Permits, and Miscellaneous Permits in existence up to the 30th June, 1918.

CONCESSIONS.

Concessionaire.	No.	Locality.	Term.	Original Area.	Present Area.
Millar's 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
Millar's T. & T. Co., Ltd. ...	12/1	Canning ...	1-1-1893 to 31-12-1924	100,000	82,750
Millar's 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
Millar's T. & T. Co., Ltd. ...	186/113	Wellington ...	1-1-1899 to 31-12-1923	27,000	16,012
Millar's T. & T. Co., Ltd. ...	227/113	Wellington ...	1-1-1901 to 31-12-1925	4,480	2,743
Millar's T. & T. Co., Ltd. ...	228/113	Wellington ...	1-1-1901 to 31-12-1925	4,480	4,130
Millar's T. & T. Co., Ltd. ...	229/113	Wellington ...	1-1-1901 to 30-12-1925	4,480	3,962
Millar's 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
Millar's T. & T. Co., Ltd. ...	261/113	Murray ...	1-10-1918 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	14,487
Ainslie, James ...	291/113	Wellington ...	1-1-1901 to 31-12-1925	17,920	17,319
Millar's T. & T. Co., Ltd. ...	296/113	Wellington ...	1-1-1900 to 31-12-1924	11,520	4,146
Millar's 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 31-3-1923	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	249,021

APPENDIX 3A—continued.

Saw Mill Permits.

Permit Holder.	Original No.	Regranted as No.	Locality.	Term.	Original Area.	Present Area.
					acres.	acres.
Whittaker Bros.	1/11	76/11	North Dandalup ...	1-7-1915 to 30-6-1925	20,000	20,000
Bunning, Robert	8/11	93/11	Near Donnybrook ...	1-10-1916 to 30-9-1926	4,700	4,700
Bunning Bros., Ltd.	9/11	94/11	Collie	1-10-1916 to 30-9-1926	10,000	10,123
Preston Valley Saw Mills, Ltd. ...	10/11	95/11	Noggerup	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
Do. do.	14/11	92/11	do.	1-4-1917 to 31-3-1927	19,000	6,700
Bunning, Robert	15/11	96/11	Near Donnybrook ...	1-4-1917 to 31-3-1927	5,300	5,300
Adelaide Timber Co., Ltd.	16/11	90/11	Wilga	1-10-1917 to 30-9-1922	12,000	15,775
Swan Saw Mills, Ltd.	19/11	...	Noggerup	1-7-1908 to 30-6-1918	1,000	1,000
Bunning Bros., Ltd.	25/11	...	Collie	1-8-1908 to 31-7-1918	10,000	10,000
S.W. Timber Hewers' Society ...	27/11	...	Near Dwellingup ...	1-1-1909 to 31-12-1918	20,001	19,706
Port & Co., Ltd.	34/11	...	Waroona	1-7-1910 to 30-6-1920	28,510	28,510
Timber Corporation, Ltd.	35/11	...	Greenbushes	1-10-1909 to 30-9-1919	6,800	6,800
Bunning Bros., Ltd.	36/11	97/11	Preston	1-4-1917 to 31-3-1927	10,000	10,000
Lewis, Francis Jas. ; Reid, F. W. S.	37/11	...	West Collie	1-1-1910 to 31-12-1919	6,000	19,730
Wilgarrup Karri and Jarrah Co., Ltd.	42/11	...	Bridgetown	1-4-1910 to 31-3-1920	23,000	23,000
Buckingham Bros.	44/11	...	Muja	1-7-1910 to 30-6-1920	17,960	17,946
S.W. Timber Hewers' Society ...	60/11	...	Yourdanning	1-4-1912 to 31-3-1922	38,000	38,000
The Kauri Timber Co., Ltd.	61/11	...	Nannup	1-1-1912 to 31-12-1921	58,000	57,595
Bunning, Robert	63/11	...	Near Donnybrook ...	1-4-1912 to 31-3-1922	8,006	8,006
Trees, Ltd.	71/11	...	Collie	1-4-1914 to 31-12-1923	20,028	20,028
Steere, F. W.	72/11	...	Near Brookhampton	1-7-1914 to 30-6-1924	1,500	1,500
Minister for Works and Trading Concerns	73/11	...	Bridgetown	1-1-1915 to 31-12-1924	7,000	7,000
Commissioner of Railways	78/11	...	Near Dwellingup ...	1-7-1915 to 30-6-1925	81,500	81,235
Minister for Works and Industries	79/11	...	Wuraming	1-10-1915 to 30-9-1925	38,690	38,690
Do. do.	80/11	...	Bingham River	1-10-1915 to 30-9-1925	25,740	25,740
Do. do.	81/11	...	Wuraming Hill	1-10-1915 to 30-9-1925	25,878	25,878
Do. do.	82/11	...	Near Worsley	1-10-1915 to 30-9-1925	4,750	8,000
Buckingham Bros.	83/11	...	Near Bingham River	1-7-1916 to 30-6-1926	25,000	25,000
Whittaker Bros.	84/11	...	North Dandalup ...	1-1-1916 to 31-12-1925	15,350	15,430
Minister for Works and Industries	85/11	...	Bridgetown	1-7-1916 to 30-6-1926	78,000	78,837
Do. do.	86/11	...	do.	1-7-1916 to 30-6-1926	143,000	142,736
Westralian Powell Wood Process, Ltd.	87/11	...	Near Bridgetown ...	...	15,000	15,000
Wandoo Timber Co., Ltd.	89/11	...	Muja	1-10-1916 to 30-9-1922	37,000	37,000
				Totals	829,346	747,398

APPENDIX 3A—continued.

Hewing Permits granted under Regulations 14 and 19a.

Permit Holder	No.	Locality.	Term.		Area.
			From.	To.	
Johnson, A. F.	1	Noggerup	26-2-17	26-2-19	2,200
Kelly, J. F.	2	do.	26-2-17	26-2-19	2,100
Plavin, C.	4	Fernbrook	16-3-17	15-3-18	4,700
Do.	5	do.	23-3-17	22-3-19	2,720
Kauri Timber Co.	6	Quigupp	24-3-17	23-3-18	3,060
Lyle, L. L.	7	Jarrahwood	24-3-17	23-3-18	4,375
Shiels, C.	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, J. A.	10	Near Hester	24-4-17	23-4-18	285
Stephens, W.	11	do.	24-4-17	23-4-18	300
Williams, A. S.	12	Hamel	27-4-17	26-4-18	1,590
Do.	13	do.	27-4-17	26-4-18	2,750
Dore, C.	14	Kirupp	28-4-17	27-4-18	330
Mathiasen, C. F.	15	Wilga	9-5-17	8-5-18	550
Yoonbusch, L.	16	Brookhampton	29-9-17	28-9-18	220
Plazza, P.	17	Dardanup	1-10-17	30-9-18	2,640
Dore, C.	18	Kirupp	5-10-17	4-10-18	1,830
Lewis & Reid	23	Worsley	14-1-18	14-1-19	1,150
Savage, J.	24	Quilergup Siding	19-1-18	18-1-19	1,170
→ Lewis & Reid	25	Muja	14-1-18	14-1-19	1,100
Tidy, R.	26	Yornupp	2-2-18	1-2-19	560
Plazza, P.	27	Dardanup	8-2-18	7-2-19	3,000
Plavin, C.	29	Worsley	12-3-18	11-3-18	1,270
Ireland, G.	30	Newlands	13-3-18	12-3-19	330
Plavin, C.	34	Worsley	10-4-18	9-4-19	4,700
Forbes, J. A.	35	Hester	1-4-18	31-3-19	365
Lewis & Reid	42	Muja	7-6-18	6-6-19	1,008
		Total ... ..	...	...	47,503
<i>Firewood-Permits.</i>					
Prior, H. C. ... ..	...	Albany	15-5-17	1-6-18	340
Fleming, D. ... ..	...	Wundowie	12-7-17	31-1-19	236
Stubberfield, R. W., and Geogeff, M.	19	Balcatta	7-11-17	6-11-18	240
Do.	20	do.	7-11-17	6-11-18	300
Stubberfield, R. W.	31	do.	20-3-18	19-3-20	300
Ablett & Barber	36	Jandakot	24-4-18	23-4-19	349
		Total ... ..	...	...	1,765
<i>Sawmilling Permits.</i>					
Firms, C.	32	Keysbrook	20-3-18	19-3-19	560
Payne Bros.	33	Capel	27-3-18	26-3-19	176
Bunning Bros.	38	Preston Line	22-5-18	21-5-19	717
Palmer, R., and Smith, G. F.	39	Collie	24-5-18	23-5-19	780
Millar's Timber and Trading Co.	40	Mt. Lennard	15-5-18	14-5-19	6,400
		Total ... ..	...	...	8,633
<i>Miscellaneous Permits.</i>					
Bunning Bros.	28	Sawyer's Valley	6-2-18	5-2-19	1,570
Groth, H. A.	37	do.	18-5-18	17-5-19	880
Do.	41	do.	5-6-18	4-6-19	2,559
		Total ... ..	...	...	5,009

SUMMARY.

	Total Areas.	
	Original.	Present.
	acres.	acres.
Concessions	396,000	378,139
Leases	409,020	249,021
Sawmill Permits	829,346	747,398
Hewing Permits	47,503	47,503
Firewood Permits	1,765	1,765
Sawmilling Permits	8,633	8,633
Miscellaneous Permits	5,009	5,009
Grand Total	1,697,276	1,437,468

APPENDIX 3B.

LIST OF SAWMILLS.

Name of Sawmill and District.	Type of Mill.	Horse power of Mill.	Average distance from 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.
Lewis & Reid, Collie	Twin saws	32	M. 0 60	M. 2 40	M. 6 60	M. 38 0	14 ² / ₅	42 ¹ / ₄	s. 6 0	d.
Bunning Bros., Collie	Twin saws	75	1 0	3 0	6 0	49 0	21	45	6 10	
Adelaide Timber Co., Wilga	Twin saws	24	2 0	No 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 Karri and Jarrah Co., Jarndup	Vertical saw	75	0 30	5 0	0 15	93 0	39	39-30	9 10	Closed down.
Bunning Bros., Argyle	Twin saws	50	1 0	6 0	0 10	21 0	14	43	4 4	
Preston Valley Sawmills, Noggerup	Twin saws	36	0 60	4 0	0 6	48 0	20	43	7 8	Closed down.
Swan Saw Mills, Lowden	Twin saws	48	1 0	6 0	1 20	35 0	30	44	5 8	Closed down.
Donnybrook Sawmills, Donnybrook	Twin saws	9	1 0	No landing	1 0	29 40	*	42	5 2	Situated on private property. Cutting on Permit 72-11.
Buckingham Bros, Muja	Twin saws	26	2 60	4 0	0 60	54 0	7	58	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	Twin saws	30	1 0	2 0	0 40	90 0	12	45	11 6	
State Mill, Wuraming	Twin saws	30	1 0	No bush landing	1 0	92 0	19 ¹ / ₂	47	11 10	
Railway Department, Mill No. 2, Dwellingup	Twin saws	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	Vertical and Twin	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, Winnieup Road	Circular saw	10	† 0 40	...	3 40	62 0	20 (per month)	70	7 11	
Mitchell & Ryan's Mill, Jayes Road	Circular saw	12	† 0 40	...	2 0	67 0	6	40	8 4	Working intermittently.
S.W. Timber Haver's 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.
C. Firms, Serpentine	Twin saws	13	...	...	5 0	...	4	...	...	Closed down.
Timber Corporation, Ltd., Greenbushes	Vertical saw	60	2 0	6-15 0	2 0	52 0	45	40 to 45	7 1	
Millar's Timber and Trading Co., Jarrahdale	Twin saws—2 mills	...	0 40	16 0	7 0	30 0	80	45-5	5 3	Closed down.
Millar's Timber and Trading Co., Wellington	Twin saws and Vertical saw	...	0 40	6 0	13 0	9 0	60	51-5	2 6	
Millar's Timber and Trading Co., Canning	Twin saws—2 mills	...	0 40	2 0	9 0	38 0	25	44	5 11	Closed down.
Millar's Timber and Trading Co., Marrinup	Twin saws	...	0 40	4 0	On main line	68 0	26	44	8 9	Closed down.
Millar's Timber and Trading Co., Yarloop	Vertical and Twin saw combined	...	0 40	8 0	9 0	37 0	65	44	5 10	
Millar's Timber and Trading Co., Nanga Brook	Twin saws	...	0 40	8 0	28 0	37 0	50	44	5 10	Closed down.
Millar's Timber and Trading Co., Momington	Vertical saw and Twin saws	...	0 40	12 0	6 0	26 0	85	44	4 11	Closed down.
Millar's Timber and Trading Co., Kirrup, East	Vertical and Twin saws	...	0 40	4 0	12 0	37 0	68	44	5 10	Closed down.

Owner	Twin saws	...	...	...	0 40	7 0	On main line	28 0	30	44	5 1	Closed down.
Miller's Timber and Trading Co., Jarrahwood ...	Twin saws	...	...	...	0 40	7 0	On main line	28 0	30	44	5 1	Closed down.
Railway Department, Midland Junction ...	Band saws	...	...	...	...	...	...	...	10	50-60	8	Cutting Tuart and Wandoo.
Railway Department, No. 1 Mill, Dwellingup ...	Twin saws	...	...	...	0 60	4 40	0 2	70 0	12	48	7	Closed down.
Coolup Milling Co., Coolup ...	Circular saw	...	...	...	0 60	...	4 0	53 0	3½	60	7 2	Closed down.
Bethell's Mill, Donnelly River ...	Twin saws	...	...	...	0 50	Landing at Mill	12 40	76 0	10	52	1 11	Closed down.
Bunning Bros., Muja ...	Twin saws	...	...	...	1 80	do.	...	53 0	9	55	7 2	Cutting fruit cases and local orders, also Sheoak.
Lewis & Reid, Harris River ...	Twin saws	...	...	...	1 20	4	6 40	38 0	12	48	6 0	
Payne, F. & A., Capel ...	Two Circular saws	...	...	...	0 30	No bush landing	8 0	26 0	3	50	4 11	
Bowman, J. H., Charlie's Creek ...	Two Circular saws	...	...	...	...	...	...	...	a	75	...	
Barron, C. A., Charlie's Creek ...	Circular saw	...	...	...	...	...	...	...	b	75	...	
Jones, Thos. B., Mumballup ...	Circular saw	...	...	...	...	...	...	...	c	60	...	
Davern, J. T., Lowden ...	Circular saw	...	...	...	...	...	...	...	d	...	...
Smith, F. S., Boyanup ...	Circular saw	...	...	...	...	...	...	...	e	50	...	
Martin, R. M., Upper Preston ...	Circular saw	...	...	...	...	...	...	...	1	75	...	
Slattery, B., Ferguson River ...	Circular saw	...	...	...	...	...	...	...	1	85	...	
Patroni, J., Upper Capel ...	Circular saw	...	...	...	...	...	...	...	1	80	...	
Bourne, C. P., Capel River ...	Circular saw	...	...	...	...	...	...	...	1½	70	...	
Farley, D., Capel River ...	Circular saw	...	...	...	...	...	...	...	f	75	...	
Kirkpatrick, J. K., Charlie's Creek ...	Circular saw	...	...	...	...	...	...	...	g	50	...	
Connell, W. R., Jayes Road ...	Spot Mill (1 bench)	...	...	...	0 40	Landing at Mill	2 0	67 0	8	...	8 4	Cutting fruit cases on private property.
Machin, J., Bridgetown ...	Spot Mill	...	...	...	0 40	...	12 0	67 0	4	...	8 4	Cutting fruit cases on private property.
Hill, E. E., Bridgetown ...	Spot Mill	...	...	...	0 40	...	4 0	67 0	2	...	8 4	Cutting fruit cases on private property.
Young, J., Balbarrup ...	Spot Mill	...	...	...	0 30	...	5 0	90 0	1	...	10 8	Cutting fruit cases on private property.
Johnston, J. ...	Spot Mill	...	...	...	a	...	No particulars obtainable.	...	...	...	...	Cutting fruit cases on private property.

* 200 flat fruit cases. † Stump to Mill. a. 84 fruit cases. b. 100 fruit cases. c. 180 dump cases. d. 300 dump cases. e. 100 dump cases. f. 120 fruit cases. g. 50 fruit cases.

APPENDIX 3c.

Table showing Number of various Timber Workers' Registration Certificates issued during Half-year ended 30th June, 1918.

	Totals.
Hewers	158
Fallers	98
Haulers	41
Carters	32
Managers and Bush Foremen	20
Teamsters	8
Swampers	13
Chasers	4
Engine-drivers	3
Pole-getters	1
Shingle Splitters	3
Total	381

APPENDIX 3d.

Return of Licenses issued during Half-year ended 30th June, 1918.

Hewers	32
Fallers	10
Haulers	7
Carters	5
Managers and Bush Foremen	21
Pile, Pole, and Balk	1
Firewood	6,049
Mining Timber	166
Bark Strippers	16
Sandalwood	455
Timber	15
Blackboy and Zamia	2
Totals	6,779

APPENDIX 4.

List of Herbarium Specimens collected from 1st January, to 30th June, 1918, and identified by the Government Botanist.

Botanical Name.	Local Name.
<i>Acacia cyclopis</i> , A. Cunn.	Rottnest Island Wattle.
" <i>divergens</i> , Benth.	Prickly Wattle.
" <i>nigricans</i> , R. Br.	Wattle.
" <i>obscura</i> , D.C.	Wattle.
" <i>pulchella</i> , R. Br.	Prickly Acacia.
" <i>urophylla</i> , Benth.	Wattle.
<i>Agonis linearifolia</i> , Schau.	Tea Tree.
<i>Albizzia lophantha</i> , Benth.	Swamp Wattle or Mimosa.
<i>Anigozanthos flavida</i> , Red.	Kangaroo Paw.
<i>Anthocercis litorea</i> , Labill.	
<i>Astartea fascicularis</i> (Zab.), D.C.	
<i>Baeckia camphorosmae</i> , Endl.	
<i>Beaufortia decussata</i> , R. Br.	Bottle Brush.
" <i>sparsa</i> , R. Br.	Bottle Brush.
<i>Boronia denticulata</i> , R. Br.	
" <i>lanuginosa</i> , Endl.	
<i>Calythrix Fraseri</i> , A. Cunn.	
<i>Casuarina distyla</i> , Vent.	
<i>Conostephium pendulum</i> Benth.	
<i>Daviesia divaricata</i> , Benth.	
" <i>juncea</i> , Sm.	
" <i>pectinata</i> , Lindl.	
<i>Eriostemon spicatus</i> , Rich.	
<i>Eucalyptus decipiens</i> , Endl.	Marluck or Flooded Gum.
" <i>gomphocephala</i> , D.C.	Tuart.
" <i>haematoxyloides</i> , Maiden	Mountain Red Gum.
" <i>sp.</i>	Swamp or Flat-top Yate.
" <i>Todtiana</i> , F. v. M.	Coastal Blackbutt.
<i>Grevillea crithmifolia</i> , R. Br.	
" <i>thelemamiana</i> , Endl.	
<i>Gyrostemon ramulosus</i> , Desf.	Cork Tree.
<i>Hakea bipinnatifida</i> , R. Br.	
<i>Hardenbergia comptoniana</i> , Benth.	Kennedy.
<i>Hibbertia hypericoides</i> , Benth.	
<i>Hovea elliptica</i> , D.C.	Blue Bush.
" <i>trisperina</i> , Benth.	Purple Hovea.
<i>Hypocalymma robustum</i> , Endl.	
<i>Kunzea ericifolia</i> , F. v. M.	Tea Tree.
<i>Lantana camara</i> , Linn.	
<i>Leptomeria Cunninghamii</i> , Miq.	
<i>Leschenaultia linarioides</i> , D.C.	
<i>Leucopogon propinquus</i> , R. Br.	
" <i>verticillatus</i> , R. Br.	Tassel Plant.
<i>Loranthus pendulus</i> , Sieb.	Mistletoe.
<i>Macarthuria Australia</i> , Hueg.	
<i>Melaleuca</i> , sp.	
<i>Olax Benthamiana</i> , Miq.	
<i>Oxylobium Callistachys</i> , Benth.	W.A. Willow.
<i>Persoonia elliptica</i> , R. Br.	Native Plum.
" <i>longifolia</i> , R. Br.	Native Cherry.
<i>Pimelea Eyrei</i> , F. v. M.	
<i>Podocarpus Drouyniana</i> , F. v. M.	Wild Grape.
<i>Scholtzia capitata</i> , F. v. M.	
" <i>obovata</i> , Schau.	
<i>Stylidium scandens</i> , R. Br.	
" <i>verticillatum</i> , F. v. M.	
<i>Templetonia retusa</i> , R. Br.	
<i>Trymalium Billardieri</i> , Fenzl, var.	Hazel.
" <i>hirsutum</i> , Benth.	
<i>Verticordia spicata</i> , F. v. M.	

APPENDIX 4—continued.

List of Herbarium Specimens collected, etc.—continued.

APPENDIX 5.

Trees raised and distributed at Hamel State Nursery during the half-year ended 30th June, 1918.

Species and Variety.	Vernacular Name.	No. on hand at 1st Jan., 1918.	No. raised in 1918.	No. on hand at 30th June, 1918.
Acacia acuminata	Raspberry Jam	70	...	70
„ Baileyana	Cootamundra Wattle	322	...	322
„ dealbata	Victoria Silver Wattle	392	...	392
„ decurrens	Sydney Green Wattle	1,196	...	1,196
„ elata	Cedar Wattle	400	...	400
„ melanyoxylon	Blackwood	256	...	256
„ podalyriaefolia	Mt. Morgan Silver Wattle	379	...	379
„ pyrenantha	Golden Wattle, W.A.	1,974	...	1,974
„ saligna	Weeping Coastal Wattle	127	...	127
„ assorted ... ..	... ..	625	...	625
Agonis flexuosa	W.A. Peppermint	1,570	300	1,870
Amygdalis communis	Almond	56	...	56
Araucaria Bidwilli	Bunya Bunya	90	...	90
„ excelsa	Norfolk Island Pine	612	...	612
Casuarina stricta ... ..	... ..	206	...	206
Callitris robusta	Murray Native Cypress	422	...	422
Ceratonina siliqua	Carob bean	2,563	...	2,563
Cinnamomum camphora	Cainphor laurel	2,418	...	2,418
Cupressus Benthami	Bentham's Cypress	370	...	370
„ glabra	Smooth Cypress	Nil	...	Nil
„ Knighti	Knight's Cypress	285	...	285
„ lusitanica	Busaco Cedar	4,455	...	4,455
„ macrocarpa	Monterey Cypress	36,498	...	36,498
„ sempervirens	Mediterranean Cedar	3,340	...	3,340
„ torulosa	Nepal Cypress	1,285	...	1,285
Dracena draco	Dragon's Blood	76	...	76
Erythrina indica	Coral Tree	80	...	80
Eucalyptus ficifolia	Red Flowering Gum	1,287	...	1,287
„ botryoides	False Mahogany	469	...	469
„ globulus	Blue Gum	603	...	603
„ macrocarpa	Sand Plain Gum	525	...	525
„ citriodora	Lemon Scented Gum	475	...	475
„ melliadora	Yellow Box	196	...	196
„ tetraptera	Broad-leaved Mallee	80	...	80
„ marginata	Jarrah	19	...	19
„ megacarpa	W.A. Blue Gum	22	...	22
„ patens	W.A. Blackbutt	4	...	4
„ gomphocephala	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	Morrell	8	...	8
„ corynoealyx	Sugar Gum	7,360	...	7,360
„ torquata	Goldfields Red Flowering Gum	78	...	78
„ pyriformis	Red Flowering Mallee	15	...	15
„ „	Yellow Flowering Mallee	3	...	3
„ assorted ... ..	... ..	2,500	...	2,500
Ficus Australis	Port Macquarie Fig	2,374	...	2,374
„ macrophylla	Moreton Bay Fig	2,878	...	2,878
Grevillea robusta	Silky Oak	724	...	724
Hakea eucalyptoides	Flowering Hakea	540	...	540
Jacaranda mimosifolia	Palixander Tree	11	...	11
Juglans Nigra	Black Walnut	280	...	280
Juniperus Bermudiana	Bermuda Island Pencil Cedar	100	...	100
Lagunaria Patersoni	Pyramid Tree	740	...	740
Melia Azedarach	Pride of India	5,590	...	5,590
Pittosporum undulatum	Victorian Native Laurel	2,865	...	2,865
Passiflora edulis	Passion Fruit ... ..	...	112	112
Platanus occidentalis	Western Plane	12,600	...	12,600
Pinus canariensis	Canary Island Pine	800	694	1,494
„ pinaster	Maritime Pine	24,900	17,123	42,023
„ insignis	Monterey Pine	18,800	15,834	34,634
„ halepensis	Aleppo Pine	65,000	5,230	70,230
Quercus suber	Cork Oak	285	...	285
„ lusitanica	Portuguese Oak	670	...	670
Robinia pseudo acacia	False Acacia	1,800	1,490	3,290
Schinus molle	Pepper Tree	1,220	...	1,220
Sterculia hetrophylla	Kurrajong	4,000	...	4,000
„ acerifolia	Flame Tree	398	...	398
Syncarpia laurifolia	Turpentine Tree	240	...	240
Thuya orientalis	Eastern Arbor Vitae	203	...	203
„ occidentalis	Western Arbor Vitae	1,939	...	1,939
Tristania conferta	New South Wales Brush Box	448	...	448
	Total	226,237	40,783	267,020

APPENDIX 5—continued.

The number of trees on hand at 30th June, 1918, was made up as follows:—

In trays	68,650
In pots	15,892
In large pots	2,115
In seed boxes	300
In nursery lines	180,063

267,020