

1935.



WESTERN AUSTRALIA.

REPORT

ON THE OPERATIONS OF

The Forests Department

FOR THE

YEAR ENDED 30th JUNE, 1935.

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

[FOURTH SESSION OF THE FIFTEENTH PARLIAMENT.]

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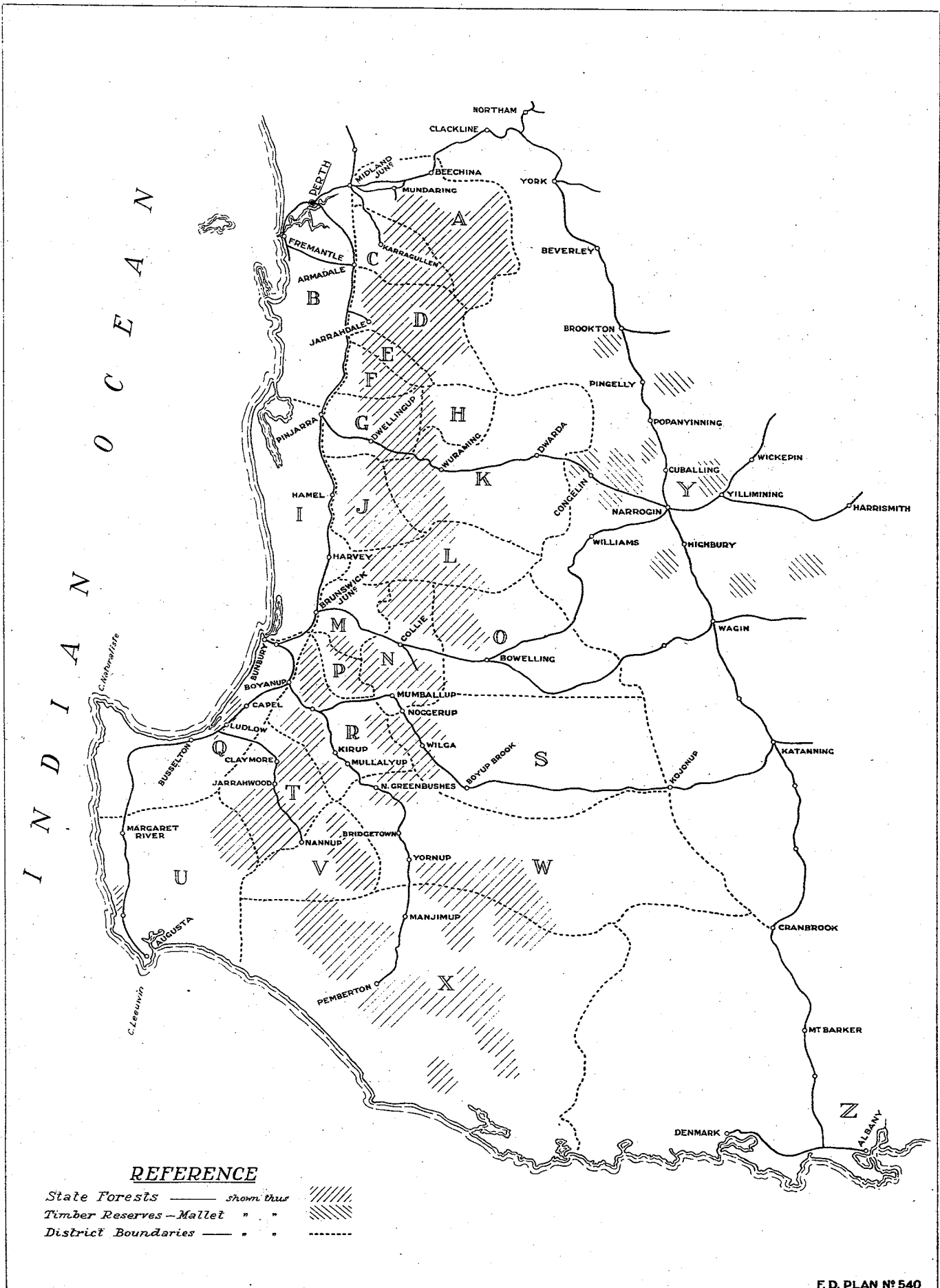
LIST OF BOTANICAL NAMES OF LOCAL SPECIES REFERRED TO IN THIS REPORT.

- Jarrah (*Eucalyptus marginata*).
- Karri (*Eucalyptus diversicolor*).
- Wandoo (*Eucalyptus redunca*, var. *elata*).
- Tuart (*Eucalyptus gomphocephala*).
- Marri (*Eucalyptus calophylla*).
- Blackbutt (*Eucalyptus patens*).
- Sandalwood (*Santalum spicatum*).
- Sheoak (*Casuarina Fraseriana*).
- Bullich (*Eucalyptus megacarpa*).
- Banksia (*Banksia verticillata*).
- Brown Millet (*Eucalyptus astringens*).
- Blackboy (*Xanthorrhoea Preissii*).

KEY TO DISTRICTS AND SUB-DISTRICTS.

Division.	District or Sub-district.
I.	Q Busselton. U Margaret River.
II.	A Mundaring.
III.	G Dwellingup. F Huntly. K Wuraming. H Duncan's.
IV.	N Collie. M Worsley. O Muja. P Wellington.
V.	R Kirup. S Noggerup. W Bridgetown. V Nannup. T Jarrahwood. X Manjimup.
VII.	Y Narrogin and balance of Crown Lands in Agri- cultural Area.
VIII.	D Jarrahdale. C Karragullen. E Solus.
IX.	B Metropolitan. Z Albany.
X.	J Willowdale. I Hamel. L Mornington.

(See map on opposite page.)



Forests Department,
Perth, 7th September, 1935.

The Honourable Minister for Forests.

Sir,

I have the honour to transmit herewith my Report on the operations of the Department for the year ended 30th June, 1935.

I have the honour to be,

Sir,

Your obedient servant,

S. L. KESSELL,

Conservator of Forests.

Annual Report on the Operations of the Forests Department for the Year ended 30th June, 1935.

INTRODUCTORY REMARKS.

The greatly improved position of the timber industry is shown by the following table giving the log intake into the various mills and the output of hewn timber for the past three years:—

Year ending.	Mill Log Intake.	Hewn Timber Produced.
30/6/33	12,990,000 cu. ft.	526,000 cu. ft.
30/6/34	17,780,000 cu. ft.	1,961,000 cu. ft.
30/6/35	24,809,000 cu. ft.	2,820,000 cu. ft.

Seven of the mills which had been closed temporarily owing to the depressed state of the trade reopened during the year, and at the 30th June last there were 40 mills cutting timber from Crown lands. At the present time there is every indication of further improvement in the sawn timber trade during the coming year.

The sawmilling industry, which depends almost entirely upon Crown lands for its log supplies, obtained 92 per cent. from this source during the year. The hewing industry has been largely dependent upon private property for supplies of timber, which last year yielded 67 per cent. of the hewn sleepers produced.

Working Plan control of the whole of the sawmilling industry in the Jarrah and Karri forests of the State was established in 1929. The Jarrah Working Plan provided for a permanent cut of 460,000 loads per annum, a level to which the output of the Jarrah mills was to be reduced in ten years from its then high figure of 700,000 loads. The decline in the timber trade in consequence of the world depression has obviated so far any need for steps to be taken towards the necessary limitations of mill-intake, but with the present revival the total cut has again approached the permissible cut provided for under the Working Plan.

In order to assist in rehabilitating the industry which was still suffering from the depression, the Department allowed rebates on royalties and inspection fees during the past year amounting to £30,000, made up of 20 per cent. rebate on log royalties, 50 per cent. rebate on inspection fees on hewn sleepers from private property, 25 per cent. on inspection fees on hewn sleepers from Crown lands, 25 per cent. on inspection fees on all sawn timber, and a special rebate of 5s. per load on all sawn timber from Crown lands exported beyond Australia.

The national character of the work of restoration of our cut-over forest lands has been recognised by the Commonwealth Government which, under an arrangement entered into with the State Government in February of this year, is subsidising the reforestation operations of this Department on a pound for pound basis. Under the impetus given by this arrangement rapid and substantial additions are being made to the already large scale forestry accomplishments to the credit of this State. Forty-nine thousand four hundred and twenty-nine acres have been treated for regeneration in the Jarrah, Karri and Mallet forests, bringing the total area so far dealt with to 260,329 acres.

Though the funds provided are only an emergency aid to reforestation, the purpose of their allocation being primarily an Unemployment Relief measure, it is to be hoped that funds appropriated by the Commonwealth in future for this work will not suffer material reduction at least for some years, if this building up of a national asset is to be carried to its completion.

To the State the work undertaken becomes a liability as well as an asset since it is upon the State that responsibility for the protection and tending of the young crops in the subsequent years falls.

Inspection of timber on behalf of buyers has been an important function of the Forests Department since its inception in 1896. During the past ten years the quantity of timber inspected has averaged more than five million cubic feet per annum. For reasons outside the control of the Department, the position with regard to specifications for timber other than sleepers has not been on an entirely satisfactory basis. With few exceptions, contract specifications in the past have called either for per-

fect timber, or have been based on specifications prepared originally for other timbers of different character from Jarrah and Karri. The result has been that, while fairly definite customs with regard to quality, etc., have been built up, these may vary considerably from the nominal specifications quoted in contracts. Experience has shown that this basis is far from satisfactory, even in supply to established markets or old customers. As a result of an extensive grading study, suitable inspection standards based on the customs of the trade have now been drawn up and issued in bulletin form.

With a decrease in the quantity of timber sent overseas, the timber trade must look to markets for higher grade products and there are indications that these are not wanting when greater attention is paid to vital problems of improved grading and seasoning. The world-wide reputation established by Jarrah as a sleeper and paving block timber over very many years has overshadowed the claim of this timber for higher grade purposes in overseas countries. In Western Australia Jarrah is widely used for flooring, panelling, cabinet work and high-grade joinery purposes. Sawmill companies are now installing modern seasoning kilns of the cross-shaft internal fan type, and there is a definite trend in the trade to seek better class markets for a large proportion of the output.

An efficient organisation has been built up whereby inexperienced and unskilled labour is being employed effectively on reforestation work, and, in this way, appreciable progress has been made in the restoration of cut-over forest areas which were in danger of deteriorating into waste land. A not unimportant feature of the Relief Works undertaken by the Department has been the employment of men who, for reasons of some physical disability or through a long period of unemployment, have been classified as "B" and "C" class. The engagement of these men on healthy outdoor work such as can be found in forests is an important step towards their rehabilitation in industry.

The policy of erection of houses for forest workers, partly in settlements and partly as isolated units, has been continued, and in this way a permanent rural industry, employing men with homes in the forest, is steadily being built up.

During the year the pine plantations in the Mundaring district reached the stage at which the volume of thinnings obtained rendered it possible to establish a small mill with a permanent life in the forest. This case mill, employing eight men, when working to capacity draws its log supply entirely from thinnings, leaving this artificially established forest in better condition than before this important silvicultural operation takes place.

The business of raising, tending and protecting a complex forest community, with its many associated ecological and silvicultural problems, is, and necessarily must be, a lengthy process, deserving of the utmost consideration and assistance from everyone, even though not directly concerned with the subject. Co-operation with the general public is essential in order to obtain the desired results, and eventually achieve the ideal—a perpetual supply of first quality timber on a sustained yield basis, with the consequent permanence of the sawmilling industry which has been of such economic value to the State.

CHAPTER I.

THE FOREST AREA.

(1)—*State Forests (Forests Act, 1918).*

Four new State Forests comprising 27,631 acres, including 8,755 acres of Jarrah forest and 18,876 acres for the propagation of Mallet, were dedicated during the year. State Forests previously dedicated were amended by the addition of 14,086 acres and by the excision, with the approval of Parliament, of 483 acres for land settlement. The total area of State Forests, therefore, shows an increase of 41,234 acres compared with the area as at the 30th June, 1934.

	June, 1934.	June, 1935.	Increase or Decrease.
	acres.	acres.	acres.
Jarrah	2,535,587	2,556,971	+ 21,384
Karri	151,794	151,782	— 12
Jarrah and Karri (Mixed)	368,936	369,922	+ 986
Tuart	5,939	5,939	...
Tingle Tingle	10,774	10,774	...
Karri and Tingle (Mixed)	13,895	13,895	...
Sandalwood	1,930	1,930	...
Pine Planting	4,842	4,842	...
Mallet ... ..	...	18,876	+ 18,876
Total	3,093,697	3,134,931	+ 41,234

(2)—*Timber Reserves (Forests Act, 1918).*

Two additional reserves comprising 30,099 acres were declared during the year, and a reserve previously declared around the Wiluna townsite was amended by the addition of 294,905 acres. The total area of Timber Reserves has, therefore, been increased by 325,004 acres since the 30th June, 1934.

	June, 1934.	June, 1935.	Increase.
	acres.	acres.	acres.
Jarrah	36,956	36,956	...
Wandoo ... ..	...	9,669	+ 9,669
Other species—			
Sandalwood	27,105	27,105	...
Pine Planting	5,521	25,951	+ 20,430
Mallet	677	677	...
Mining Timber, Firewood, etc.	1,361,822	1,656,727	+ 294,905
Total	1,432,081	1,757,085	+ 325,004

CHAPTER II.

REVENUE.

The Revenue of the Department amounted to £119,232, compared with £89,895 for the previous year, an increase of £29,337.

The rebate of 20 per cent. on log royalty approved by Cabinet in 1931, together with inspection fee rebates of 50 per cent. on hewn sleepers from private property, 25 per cent. on hewn sleepers from Crown lands, and 25 per cent. on sawn timber were continued. In addition a special rebate of 5s. per load on sawn timber from Crown lands exported beyond Australia was allowed. The amounts thus rebated were—

On Log royalty	£	16,526
Sawn Timber exported	£	9,804
Inspection fees	£	3,581
		<u>£29,911</u>

Log royalty amounted to £68,069 19s., an increase of 31 per cent. on receipts from this source during the previous year. Sandalwood revenue again showed a slight increase, whilst inspection fees amounted to £6,598 as against £4,325 during the year ended 30th June, 1934.

PRINCIPAL SOURCES OF REVENUE FOR THE PAST TWO YEARS.

Year.	Royalties.		Inspection Fees.	Sandalwood.	Firewood and Fence Posts.	Miscellaneous.	Total.
	Logs for Sawmilling.	Hewn Timber.					
1933-34	£ 52,468	£ 8,066	£ 4,325	£ 13,918	£ 2,319	£ 8,799	£ 89,895
1934-35	68,070	9,683	6,598	19,713	4,589	10,579	119,232

TIMBER PRODUCTION.

PRODUCTION OF TIMBER FOR YEAR ENDED 30TH JUNE, 1935 (EXCLUSIVE OF MINING TIMBER, FIREWOOD AND PILES AND POLES).

No. of Division.		MILL LOGS.					HEWN TIMBER.				Grand Total.	
		Jarrah.	Karri.	Other.	Total.		Jarrah.	Wandoo.	Total.			
					In Log.	Recovery of Sawn Timber.			In Square.	In Square.	In Log.	In Square.
1	Crown Lands ...	cub. ft. 397,782	cub. ft. 11,454	...	cub. ft. 409,236	cub. ft. 142,316	cub. ft. 103,217	...	cub. ft. 516,085	cub. ft. 103,217	cub. ft. 925,321	cub. ft. 245,533
	Private Property ...	117,017	1,542	134,801	253,360	88,553	122,827	...	614,135	122,827	867,495	211,380
2	Crown Lands ...	34,338	...	24,181	58,519	20,482	7,841	...	36,815	7,363	95,334	27,845
	Private Property ...	226,360	...	7,782	234,142	81,950	172,341	22	1,547,315	309,468	1,781,457	391,413
3	Crown Lands ...	5,258,059	...	5,888	5,263,447	1,842,206	67,900	...	3,639	357,695	71,539	5,821,142
	Private Property ...	...	...	255	255	89	93,904	28,913	614,085	122,817	614,340	122,906
4	Crown Lands ...	2,349,417	...	59,737	2,409,154	843,204	184,109	25,993	1,050,510	210,102	3,459,664	1,053,306
	Private Property ...	496,211	...	361	496,572	173,800	93,053	13,779	534,160	106,832	1,030,732	230,632
5	Crown Lands ...	2,954,243	...	11,599	2,965,842	1,038,045	222,808	2,465	1,126,365	225,273	4,092,207	1,263,313
	Private Property ...	135,835	...	9,228	145,063	50,772	328,448	30,720	1,795,840	359,168	1,940,903	409,940
6	Crown Lands ...	1,971,366	4,249,108	3,531	6,224,005	1,838,473	62,474	...	312,370	62,474	6,536,375	1,900,947
	Private Property ...	6,947	66,674	...	73,621	20,433	523,082	...	2,615,410	523,082	2,639,031	543,515
7	Crown Lands ...	...	...	...	...	...	...	1,843	9,215	1,843	9,215	1,843
	Private Property ...	...	...	...	...	...	2,516	34,640	185,780	37,156	185,780	37,156
8	Crown Lands ...	350,977	...	12,132	363,109	127,088	59,988	...	299,940	59,988	663,049	187,076
	Private Property ...	741,348	...	...	741,348	259,472	147,917	...	739,585	147,917	1,480,933	407,389
9	Crown Lands ...	40,055	78	2,394	42,527	14,878	14,313	567	74,400	14,880	116,927	29,758
	Private Property ...	24,586	2,780	14,606	41,972	14,468	66,301	3,942	351,215	70,243	393,187	84,711
10	Crown Lands ...	5,037,375	...	47,188	5,084,563	1,779,597	170,888	...	854,440	170,888	5,939,003	1,950,485
	Private Property ...	2,759	...	...	2,759	966	91,725	1,303	465,140	93,028	467,899	93,994
Totals	Crown Lands ...	18,393,612	4,260,640	166,150	22,820,402	7,646,239	893,038	34,529	4,637,835	927,567	27,458,237	8,573,856
	Private Property ...	1,751,063	70,996	167,033	1,989,092	690,503	1,642,114	250,419	9,462,665	1,892,533	11,451,757	2,583,036
Grand Totals	...	20,144,675	4,331,636	*333,183	24,809,494	8,336,792	2,535,152	284,948	14,100,500	2,820,100	38,909,994	11,156,892

Includes 139,884 cub. ft. Tuart; 77,738 cub. ft. Sheoak; 52,114 cub. ft. Blackbutt; 40,753 cub. ft. Pine; 20,266 cub. ft. Wandoo; 1,748 cub. ft. Marri; 680 cub. ft. Bullich.

(Factors for conversion of round to squared: Sawn Karri, 27 per cent.; other sawn, 35 per cent.; hewn, 20 per cent.)

SAWMILLING AND HEWING.

The timber industry has shown a very marked improvement during the past year. The volume of sawn and hewn timber produced amounted to 11,156,890 cubic feet, the value of which is estimated at £1,450,000. The log intake of the mills increased by 39.5 per cent. and the production of hewn timber by 43.8 per cent. The quantity of log timber converted during the year into sawn and hewn timber is estimated at 38,910,000 cubic feet.

The demand for Jarrah railway sleepers from overseas countries has been largely responsible for the increased production, but there are also indications of improving demand for Jarrah and Karri for flooring, railway wagon scantling, mining lift guides, telegraph arms and a variety of other purposes.

Seven mills which had been closed temporarily owing to the depressed state of the trade reopened during the year, and at the 30th June last there were 40 mills cutting timber from Crown lands. At the present time there is every indication of further improvement, in the sawn timber trade.

The sawmilling industry, which depends almost entirely upon Crown lands for its log supplies, obtained 92 per cent. of its requirements from this source during the past year. The hewing industry has been largely dependent on private property for supplies of timber, which last year yielded 67 per cent. of the hewn sleepers produced. Between 800 and 900 hewers were employed in sleeper cutting throughout the year.

The respective quantities of sawn and hewn timber obtained from Crown lands and private property for the past two years are set out in the following statement:—

Year.	From Crown Lands.			From Private Property.		Estimated Value of Timber obtained.
	Sawn Timber other than Sleepers.	Sawn Sleepers.	Hewn Timber.	Sawn Timber, including Sleepers.	Hewn Timber.	
1933-34	cub. ft. 5,094,757	cub. ft. 354,965	cub. ft. 951,567	cub. ft. 439,504	cub. ft. 1,009,820	£ 1,014,000
1934-35	6,794,190	852,099	927,567	690,503	1,892,533	1,450,000

Although only Jarrah and Karri timbers are handled in quantity by the trade, there appears to be an increasing demand for other locally grown timbers, as indicated by the following figures showing in cubic feet the quantity cut for the past two years. The figures for 1934 are shown in brackets:—

Tuart logs	.. .. .	(123,055)	139,884
Wandoo logs	.. .. .	(28,438)	20,266
Hewn Wandoo	.. .. .	(88,210)	284,948
Sheoak logs	.. .. .	(24,908)	77,738
Blackbutt	.. .. .	(21,664)	52,114

TIMBER EXPORTS.

The quantity of timber exported during the year amounted to 5,326,117 cubic feet, the declared value of which was £636,466. In addition wood manufactures to the value of £65,494 were also exported. This latter amount represents principally the value of casks and shooks, a large percentage of which is for empty returns. The export trade which consisted chiefly of undressed timber, was 1,265,000 cubic feet greater than for the previous year.

The principal export market for our hardwoods during the past year was in the Eastern States of the Commonwealth, which took timber to the value of £221,654, or approximately 35 per cent. of the total quantity exported. The United Kingdom is also an important market, and apart from being the second largest buyer of our timbers, was the best market for dressed timber. Other countries

which purchased timber to the value of £15,000 or more during the year were:—South Africa, £83,938; China, £77,980; Egypt, £32,878; Ceylon, £29,093; New Zealand, 22,706; Portuguese East Africa £20,779 and Iraq £15,447.

A detailed statement of the timber exports is given in Appendix 2a of this report.

TIMBER IMPORTS.

Timber and wood manufactures imported during the year amounted to £211,056, details of which are given in Appendix 2b of this report. Compared with the value of the imports for 1933-1934 there has been an increase of approximately £27,000. It will be seen from the detailed statement that of the total imports, timber and wood manufactures to the value of £141,000 are stated to have been of Eastern States origin. The value of dressed and undressed timber amounted to £80,323 and showed an increase of £25,000 on the figures for the previous year.

The quantity of timber imported for the making of boxes rose from 98,000 cubic feet in 1933-34 to 212,000 cubic feet in 1934-35, and is largely responsible for the increased timber imports last year.

Wood manufactures imported amounted to £130,733 and included £38,713 for barrels and casks, £31,206 for plywood and veneers, £20,211 for furniture and £8,740 for tool handles.

TIMBER INSPECTION.

There was a considerable increase in this branch of the Department's activities during the past year, which necessitated the employment of 10 additional timber inspectors.

The volume of sawn and hewn timber submitted to the Department for inspection amounted to 4,021,423 cubic feet, being 43 per cent. greater than the volume for the previous year. In addition to sawn and hewn timber 60,728 lineal feet of piles and poles were inspected.

In order to place the grading of flooring for the local market on a better basis, arrangements were made in October last for the inspection and branding of merchantable flooring sold in the metropolitan market. Since that date 1,244,000 lineal feet of flooring have been submitted to the Department for inspection.

Revenue amounting to £6,598 was received from timber inspection.

SANDALWOOD.

The sandalwood industry, in common with other industries, has during recent months been affected by the difficult trading conditions, which continue to operate in China. The silver policy of the United States of America has had serious repercussions on the currency of Hong Kong and Shanghai, and has seriously affected all business. Some of the main sandalwood consuming provinces in the Yangtze Valley have also suffered from floods and consequent crop failures, thus further reducing the purchasing power of the community and dislocating trading conditions generally. The one satisfactory feature is the comparative stability of the sandalwood market in comparison with the market for other commodities in China which has caused the failure of many old-established trading houses and banks during recent months. Excess stocks, which at one time amounted to approximately 10,000 tons, mostly stored at Fremantle, are being steadily liquidated and during the past twelve months, in consequence of this reduction, it has been possible to increase the percentage of new pulling, resulting in the quantity of sandalwood obtained during the year being 452 tons greater than for the previous year.

One hundred and fifty-seven orders for 1,348 tons of sandalwood for export were placed on the Eastern Goldfields, and 11 orders for 115 tons for oil distillation were issued in the Carnarvon and North-West districts.

The sandalwood exported during the year amounted to 2,223 tons valued at £66,474.

The quantity of sandalwood supplied from all sources during the year ended 30th June, 1935, is set out in the following table:—

Locality.	Distillers.	Export.
	tons.	tons.
From Crown Lands South of 26th parallel	301	1,311
From Crown Lands North of 26th parallel	80	...
From Private Property ... ..	...	141
Totals	381	1,452

Sandalwood from Private Property.

Licenses were issued in accordance with the provisions of the Sandalwood Act, 1929, with 44 persons for the disposal of 171 tons of sandalwood from private property. Of this quantity 141 tons had been delivered at the end of June last.

Sandalwood for Oil Distillation.

Only 381 tons of sandalwood were used by oil distillers during the year and most of this consisted of roots and stumps obtained in conjunction with the pulling of sandalwood logs for export. The quantity of sandalwood oil exported amounted to 26,815 lbs.

OTHER FOREST PRODUCE.

Mining Timber and Firewood.

The consumption of mining timber and firewood on the Goldfields for the year under review was 13,855 tons and 408,000 tons respectively. Although these figures show an increase of 1,000 tons of mining timber and 18,000 tons of firewood on the previous year's operations, a considerably increased demand for this class of timber may be expected in the near future, when a number of old mines are reopened and new mines are developed at depth.

Piles and Poles.

Local requirements of piles and poles have in the past been largely obtained from land alienated for farming and grazing, but unfortunately figures relating to this class of timber have only been available for Crown lands. From this source 177,734 lineal feet of piles and poles were obtained during the year, an increase of 35,767 lineal feet on the previous year's cutting. This increase is probably due in some measure to the fact that supplies on private property are now very limited.

Mallet Bark.

Two thousand three hundred and fifty tons of mallet bark were obtained from Crown lands and private property during the year. This quantity is 800 tons less than the quantity stripped during the previous year. The quantity of bark exported amounted to 1,648 tons, valued at £15,284.

FOREST PRODUCE NOT ELSEWHERE INCLUDED IN PRODUCTION TABLES, OBTAINED DURING YEAR ENDED 30TH JUNE, 1935, AND REPORTED TO THE DEPARTMENT.

Description of Forest Produce.	SOUTH-WEST DIVISION AND AGRICULTURAL AREAS.										Northern, Central and Eastern Goldfields.	Total.
	Forest Division No.											
	1	2	3	4	5	6	7	8	9	10		
Mining Timber tons	...	...	...	1,283	...	...	...	...	...	...	13,000	14,283 tons.
Sleepers for Goldfields Wood Lines cubic ft.	...	...	...	...	...	...	...	...	...	...	18,910	18,910 c. ft.
Firewood including Charcoal tons	102	15,725	155	48	606	...	50	38,903	8,024	242	144,370	208,225 tons
Mining Firewood ... ..	...	...	...	...	975	...	...	...	...	...	263,628	264,603 tons
Piles and Poles * lin. ft.	5,764	29,478	23,596	20,757	55,803	35,463	18,116	14,492	1,780	22,343	...	227,592 lin. ft.
Fencing Posts and Rails No.	600	159	1,098	1,360	4,675	1,306	5,385	1,290	...	5,499	...	21,372 No.
Blackboy tons	...	...	...	...	...	...	...	...	...	220	...	220 tons
Mallet Bark * ... ..	...	...	...	...	...	...	2,352	...	...	...	...	2,352 tons
Wandoo Bark ... ..	...	...	...	...	...	...	91	...	...	...	...	91 tons
Marri Kino... ..	...	...	...	...	...	...	...	13	...	...	...	13 tons
Boronia Megastigma lbs.	...	...	...	...	...	...	...	...	3,000	...	...	3,000 lbs.
Stone c. yds.	...	...	...	...	...	...	...	1,592	...	...	...	1,592 c. yds.
Kingia Fibre * tons	...	...	...	...	...	...	...	...	2	...	...	2 tons

* From Crown lands and private property.

NOTE.—Except where otherwise stated, this statement includes only forest produce obtained from Crown lands under permit or license.

FOREST OFFENCES.

Sixty forest offences were reported by officers of the Department during the year, of which forty concerned the illegal cutting of timber. In nine cases proceedings were taken against the offenders, and fines, costs and damages amounting to £123 were imposed. The remaining cases were dealt with either by accepting payment of royalty or damages or by the confiscation and sale of the forest produce illegally obtained. The amount received by the Department in this way totalled approximately £645.

CHAPTER III.

(1).—EXPENDITURE.

Consolidated Revenue Fund expenditure amounted to £18,524, an increase of £3,782 on the previous year's figure. This was due to the appointment of additional timber inspectors.

An amount of £157,665 was expended on unemployment relief work during the year. Of this sum £13,290 was contributed by the Commonwealth, being portion of the grant of £100,000 to this State for forestry work during the twelve months commencing May 1st, 1935. The balance—£144,375—was made available from General Loan Fund.

Three-fifths of the net revenue of the Department, exclusive of sandalwood, produced £34,404 during the financial year and this amount has been credited to the Reforestation Fund in accordance with Section 41 of "The Forests Act, 1918."

The following statement shows the position of the Reforestation Fund at the close of the year 1934-35:—

	£
Revenue for Year 1934-35	119,232
Less Sandalwood	19,713
	<u>99,519</u>
	£
Consolidated Revenue Fund Expenditure	18,524
Less Expenditure on Sandalwood	1,243
	<u>17,281</u>
Interest on Loans	23,175
Sinking Fund	1,132
Special Acts	866
Audit Fee	103
	<u>42,557</u>
Net Revenue	<u>£56,962</u>
Reforestation Fund—	
Balance at 30th June, 1934	28,075
Three-fifths Revenue transferred	34,178
Adjustments	226
Direct Credits	3,599
	<u>38,003</u>
	66,078
Expenditure 1934-35	13,827
Balance available	<u>£52,251</u>

(2.) REFORESTATION OPERATIONS.

(A) FOREST MANAGEMENT.

SUMMARY OF WORK CARRIED OUT DURING YEAR.

Division and District.	Topographical Survey.	Roads and Tracks Cleared.	Telephone Lines Constructed.	Houses Built.
DIVISION 1—	miles.	miles.	miles.	
Busselton ... ..	...	...	...	...
Margaret River ... ..	...	...	...	...
DIVISION 2—				
Mundaring ... ..	...	9 $\frac{3}{4}$	2	1
DIVISION 3—				
Dwellingup	} 219	135 $\frac{1}{2}$	...	1
Wuraming				
Huntly				
Duncans				
DIVISION 4—				
Collie	} 52 $\frac{1}{4}$	80 $\frac{3}{4}$	7 $\frac{1}{2}$	1
Muja				
Worsley				
Wellington				
DIVISION 5—				
Kirup	} 116 $\frac{1}{4}$	84 $\frac{1}{4}$	17 $\frac{3}{4}$	1
Noggerup				
Bridgetown				
Jarrahwod				
Nannup				
DIVISION 6—				
Manjimup	172	43	44	5
DIVISION 7—				
Narrogin ... ..	...	32 $\frac{1}{4}$	...	...
DIVISION 8—				
Jarrahdale	} 231	189 $\frac{3}{4}$	...	3
Karragullen				
Solus				
DIVISION 9—				
Metropolitan ... ..	...	...	...	...
Albany ... ..	...	...	...	...
DIVISION 10—				
Hamel	} 88 $\frac{1}{4}$	38 $\frac{1}{4}$	25	8
Willowdale				
Mornington				
Totals	878 $\frac{3}{4}$	613 $\frac{1}{2}$	96 $\frac{1}{4}$	20

FOREST SURVEYS.

No topographical survey camps worked continuously during the year, but, as the need arose in each Division, the survey of compartment boundaries, compartment base lines, fire lines, and general topographical features was carried out. Co-operation with surveyors of Millars' Timber and Trading Co. and State Saw Mills was maintained.

To locate high points suitable for fire lookout towers, a skeleton barometric survey was undertaken in the Kirup and Nannup Districts.

Eight hundred and seventy-eight and three-quarter miles of traverse lines were run by compass and chaining.

PERMANENT ESTABLISHMENTS.

To assist in the consolidation and protection of the now greatly enlarged reforested area, the building programme was extended by the erection of 20 houses and 3 fire lookout towers. The Mornington, Jarrahdale and Manjimup Districts were the centres of chief activity.

To link these new houses and fire towers with District Offices and already existing forest stations, for purposes of fire control and general administration, it was necessary to construct a further 96½ miles of earth circuit telephone line. In this connection it is interesting to note that assistance in fire detection is being given by local settlers in districts such as Manjimup and Kirup, where the forest area is surrounded by private property, and telephone connection with these helpers has been established.

The network of forest roads and tracks was extended by the clearing of a further 613½ miles of old tramline formations and whim tracks.

(B) SILVICULTURE.

(a) Jarrah.

SUMMARY OF OPERATIONS FOR THE YEAR.

Division and District.	Top Disposal.	Treatment for Regeneration.	Thinning.	Tree-marking.	
				Sawmilling.	Hewing.
DIVISION 2— Mundaring	acres. ...	acres. 929	acres. 60	acres. 1,505	acres. ...
DIVISION 3— Dwellingup ... } Wuraming ... } Huntly ... } Duncans ... }	8,846	13,350	14,794	8,610	2,703
DIVISION 4— Collie ... } Worsley ... } Wellington ... }	8,048	3,318	1,394	8,771	4,703
DIVISION 5— Kirup ... } Noggerup ... } Bridgetown ... } Nannup ... }	887	9,906	595	6,108	300
DIVISION 6— Manjimup	*3,570	1,468	182	...	...
DIVISION 8— Jarrahdale ... } Karragullen ... } Solus ... }	7,000	7,772	308	960	6,228
DIVISION 10— Willowdale ... } Mornington ... }	5,161	7,843	1,132	4,448	4,248
Totals	33,512	44,586	18,465	30,402	18,182

* Includes Karri.

The progress of silviculture in the Jarrah forest in Western Australia and the rapid rate at which the leeway in silvicultural measures occasioned by unregulated exploitation of past years in the virgin forest and the subsequent neglect of protection of the young second crop is being overtaken are well illustrated by the figures given below:—

Cut-over for sawmilling, 1929-1935	138,882 acres
Treated for regeneration, 1929-1935	232,752 acres

Thus the provisions of the General Working Plan approved in 1929 are being adhered to, and the area of forest brought under intensive management during the year exceeded that over which sawmilling operations took place.

The outstanding features of the year 1934-35 have been—(1) the material increase in the area of cut-over Jarrah forest treated to promote the growth of a second crop; (2) a corresponding increase in the thinning of stands regenerated by the treatment of the past few years; and (3) the continued use of relief workers in all operations, a feature of this being the employment on light work of men who, through physical disabilities, were otherwise unemployable.

That the timber trade is showing an upward trend and recovering rapidly from the trade depression of the past three years is well exemplified by the following figures relating to the areas tree-marked for sawmilling and disposal of tops after logging. The figures for 1933-34 and 1934-35 are:—

	1933-34.	1934-35.
Tree marking for sawmilling	15,526 acres	30,402 acres
Top disposal	22,519 acres	33,512 acres

The restocking by silvicultural treatment of cut-over areas carrying useless trees and malformed growth took place over 44,586 acres, by far the greatest annual acreage ever obtained in Western Australia. Comparative figures since 1932 are:—

1932	17,293 acres
1933	30,920 „
1934	29,411 „
1935	44,586 „

The vigorously growing young sapling stands resulting from the treatment of past years have reached the stage when a thinning to allow for their proper development is necessary, and during the past twelve months 18,465 acres of such forests were treated.

New centres of operations were opened up in the Manjimup and Mornington Districts.

An increased programme of silvicultural operations has been made possible by the use of unemployed labour on a relief work basis, and approximately 1,000 men, the majority unskilled, have, under the direction of experienced overseers, carried out this valuable work in a satisfactory manner. A further impetus was given to the rehabilitation of the forests by the Commonwealth Government when they subsidised the work of the Department on a £ for £ basis.

(b) *Karri.*

A further extension of reforestation operations took place in the Manjimup district following the occurrence of a seed year. Two new centres of operations were established.

The area of Karri forest treated silviculturally was 3,623 acres, bringing the total area now reforested and placed under fire control to 16,102 acres. On 277 acres where the natural seed fall was deficient, spot sowing was carried out.

(c) *Mallet.*

On the unproductive poison country on the Great Southern Railway, extensive additions to the Mallet reforestation programme were made. A further 1,202 acres were sown, bringing the total area of plantations established to date to 6,609 acres. Eighteen acres of natural regrowth were thinned, while 50 acres of sapling growth on the Lol Gray plantation, established in 1927, were also thinned. The total area now thinned is 1,022 acres.

For future sowing a further 673 acres were cleared, and approximately 550 lbs. of seed collected.

Scrub growth on 1,737 acres of established plantation was eradicated to prevent undue competition with seedling Mallet. This work was carried out by "B" class relief labour.

(d) *Sandalwood.*

Reforestation operations with sandalwood on the Eastern Goldfields are at a standstill, awaiting results from the sowings of past years, and consequently no fresh sowing was carried out.

The year was exceptionally dry, and little growth took place. However, for a similar reason, depredations of rabbits—the chief enemy of the young sandalwood plants—were little in evidence.

(C).—FIRE CONTROL.

District.	Area under Fire Control.	Area afforded Complete Protection.					
		Indigenous Forest.			Pine Plantation.		
		In course of Treatment.	Regenerated and tended to 15th June, 1934.	Fire Losses.	Being Cleared for Planting.	Planted Area.	Fire Losses.
DIVISION 1—	acres.	acres.	acres.	acres.	acres.	acres.	acres.
Busselton ...	} 11,000	...	2,366	...	856	1,591	...
Margaret River ...							
DIVISION 2—							
Mundaring ...	50,000	929	3,537	10	393	2,169	...
DIVISION 3—							
Dwellingup ...	} 200,000	13,350	50,529	10	...	...	...
Wuraming ...							
Huntly ...							
Duncan's ...							
DIVISION 4—							
Collie ...	} 155,000	3,318	43,068	199	20	452	...
Muja ...							
Worsley ...							
Wellington ...							
DIVISION 5—							
Kirup ...	} 160,000	9,906	62,735	...	456	257	...
Noggerup ...							
Bridgetown ...							
Nannup ...							
DIVISION 6—							
Manjimup ...	23,500	{ 1,468 *3,623 }	17,899	30	...	299	...
DIVISION 7—							
Narrogin ...	80,000	†1,500	7,438	...	...	...	...
DIVISION 8—							
Jarrahdale ...	} 210,000	7,772	34,103	18	...	...	...
Karragullen ...							
Solus ...							
DIVISION 9—							
Metropolitan ...	} 5,200	...	...	...	812	3,284	...
Albany ...							
DIVISION 10—							
Hamel ...	} 250,000	7,843	15,584	...	223	1,152	...
Willowdale ...							
Mornington ...							
Total ...	1,144,700	49,709	237,259	267	2,760	9,204	...

* Karri.

† Mallet.

Notable features of the fire season of 1934-35 were the erection of three new fire towers, and the extended use of mobile fire suppression units using water as a means of control.

New towers were built at Mt. Keats, Mt. William, and Eagle Hill, in the Willowdale, Hoffman, and Jarrahdale areas. This now brings the Jarrah forest from Sawyers' Valley to Collie under direct observation from lookout towers. It is hoped to further extend the lookout system during the coming year to the Kirup and Narrogin districts.

The use of light utility trucks fitted with water tanks, pack sprays, and up-to-date fire fighting equipment, has lightened the task of fire suppression considerably, and their successful application during the past season at certain centres will lead to a more general use in the future.

The season, on the whole, was comparatively mild, with but one period of bad weather, 15th January to 15th February, 1935, and one day of high hazard, 22nd February. No "blow-up" days were experienced. The chief sources of danger are fires originating from bush locomotives and the burning off by settlers.

Detection and location of smokes from towers is effected by binoculars and direction finders, and it is intended to augment this method during the coming season by the introduction of panoramic plans and a new type of direction finder.

The Fire Hazard Research Station established in 1933-34 at Dwellingup operated during the season, and collected and correlated valuable data on the relationship between weather and fire hazard.

Decimal point 09 per cent. of treated or planted country, and .02 per cent. of the area under fire control were reported as lost by fire.

(3.) AFFORESTATION.

AREAS OF CONIFERS ESTABLISHED DURING THE MONTHS OF JUNE, JULY, AND AUGUST, 1934.

District.	Plantations.	Area established prior to 1934.				Area established, 1934.				Grand Total.
		<i>Pinus radiata.</i>	<i>Pinus pinaster.</i>	Other conifers.	Total.	<i>Pinus radiata.</i>	<i>Pinus pinaster.</i>	Other conifers.	Total.	
DIVISION 1— Busselton ...	Coolilup ...	7	771	23	801	...	...	...	...	801
	Stirling ...	3	298	20	321	61	143	...	204	525
Margaret River	Boranup ...	33	12	...	45	...	...	...	...	45
	Keenan ...	160	60	...	220	...	...	...	...	220
DIVISION 2— Mundaring ...	Helena ...	477	130	45	652	...	...	...	...	652
	Greystones	437	192	57	686	...	...	...	...	686
	Beraking ...	143	65	92	300	...	...	...	...	300
	Mudros ...	141	110	29	280	...	...	...	...	280
	Darkin ...	115	132	4	251	...	...	...	...	251
DIVISION 4— Collie ...	Mungalup	59	5	3	67	...	...	...	...	67
	Proprietary	...	285	4	289	...	31	...	31	320
DIVISION 5— Kirup ...	East Kirup	169	22	2	193	...	...	...	...	193
DIVISION 6— Manjimup ...	Big Brook...	84	...	45	129	170	...	...	170	299
DIVISION 9— Metropolitan ...	Applecross	...	669	...	669	...	109	...	109	778
	Gnangara ...	...	907	7	914	...	318	...	318	1,232
	Collier ...	...	551	...	551	...	115	...	115	666
	Scaddan ...	...	210	...	210	...	...	...	...	210
Albany ...	Pardelup ...	280	103	1	384	...	...	...	...	384
DIVISION 10— Hamel ...	Myalup ...	2	672	21	695	...	...	...	...	695
	Harvey Weir	282	90	25	397	...	...	...	...	397
	Hamel ...	18	40	2	60	...	...	...	...	60
EXPERIMENTAL AREAS ...	Nannup ...	14	32	18	64	...	...	...	...	64
	Bowelling ...	9	29	27	65	...	...	...	...	65
	Albany ...	1	4	9	14	...	...	...	...	14
Totals ...	...	2,434	5,389	434	8,257	231	716	...	947	9,204

Although the area planted during the 1934 season dropped to 947 acres in comparison with 1,436 acres planted in 1933, the annual planting programme of 1,000 acres per annum has been maintained, 9,204 acres in all having been established in the nine years in which the programme has been in force.

The chief planting centres are the Metropolitan, Mundaring and Busselton-Margaret River Districts, where 13 plantations have been established. The areas planted at these centres are as follow:—

Metropolitan District	...	...	...	...	2,886 acres.
Mundaring District	...	...	...	...	2,169 "
Busselton-Margaret River District	...	...	...	...	1,591 "

There are now over 5,000 acres of pines established within a 40-mile radius of the important markets of the metropolitan area.

There has been no change in the varieties of planting stock used, *Pinus pinaster* and *Pinus radiata* being the principal species. The area of the former was increased by 716 acres during the year and the latter by 231 acres, of which 170 were established on the loamy soils of Big Brook near Pemberton. No planting of other species was carried out, the results of the experimental planting of past years not yet having given sufficient indication of their suitability or otherwise.

The total amount of pine logs removed from Crown lands and private property during the year showed an increase of 7,135 cubic feet over the figure for 1933-34, 40,753 cubic feet being supplied to local sawmills, as against 33,618 cubic feet for the previous year. A significant feature of this was the

increase of 13,759 cubic feet removed from Crown lands, due principally to the establishment of a small sawmill in Greystones plantation at Mundaring Weir, where thinning has now reached the stage of providing a life for a small case mill.

Continued use has been made of relief workers in all phases of afforestation operations, up to 200 men being employed during the planting season. In the tending and subsequent cultivation of established plantations work was found for a number of relief workers classified as fit for light work only.

Detailed soil surveys of plantations have been continued and much valuable data collected.

(4) RESEARCH AND INVESTIGATION.

Observation plots and replicated experiments have been established to test the soundness of the technique being applied to large scale regeneration operations, and improvements and modifications are being made constantly to the standard practice in connection with all classes of operations as a result of this work.

The character and composition of the Jarrah forest is being studied and local and regional differences assessed with regard to (a) the composition of the forest embracing height variances with diameter classes, basal area, distribution in diameter classes, log length and volumes for the principal crop and any associated species; (b) the determination of quality classes; (c) the correlation of soil type with crop quality and ground vegetation types; (d) the crown development and its distribution and its relation to breast-high diameter.

The mapping of soil types and mechanical and chemical analyses of soils have been carried out in connection with a number of projects. Standard lines laid down for the work in Australia by the Soils Division of the Council for Scientific and Industrial Research at the Waite Institute, Adelaide, have been followed. Intensive soil surveys have been made of a number of plantation areas and marginal forest types. This work has extended over some 6,500 acres, and has formed the basis for extension of planting operations on a number of exotic plantations, and to decide areas to be cleared for pasture purposes in connection with forest settlements.

Pine establishment experimentation has lent itself to modern methods of field trials with plot replication and statistical analysis of results. As a result of this work during the past four years very valuable data has been secured in connection with different treatments in nursery practice, lifting, packing, transporting and setting in the field, preparation and subsequent treatment of planting site, manuring in plantation and nursery, and provenance studies particularly in connection with *Pinus pinaster*.

Considerable investigations have been carried out in connection with fire hazard in relation to weather conditions and in fire suppression methods. A fire weather research station has been established at Dwellingup and valuable data secured concerning methods of measuring the degree of fire danger on any day in summer and to a less extent in forecasting the probable occurrence of bad fire weather. The greatest advances in fire-fighting methods have resulted from the use of motor transport in enabling trained fire-fighters to reach the scene of the fire quickly, and the use of water pack sprays in lieu of direct beating, raking and counter firing.

It was stated in the last Annual Report that Western Australian sawmillers had dropped behind hardwood sawmillers in the Eastern States in the matter of efficient seasoning practice. Developments during the year indicate that this leeway should be rapidly reduced. Installations consisting of two modern cross shaft, internal fan kilns, with necessary yard layout and handling equipment to allow a short preliminary air seasoning were erected by two of the larger sawmilling firms. The designs were supplied by this Department and are based on those of the Council for Scientific and Industrial Research for this type of kiln. Very satisfactory results have been obtained with wide boards and joinery stock up to 2 inches thick and fair results with heavier sections.

In addition to the above plants, a concrete steaming chamber has been installed by one company for reconditioning of collapse in imported Eastern States hardwoods.

Several inquiries have been received from other firms interested in kiln-drying, indicating that in a very short time there should be a considerable increase in the number of kilns operating.

Accumulation of data aiming at preparation of suitable grading rules for Jarrah and Karri has been undertaken for the past six years.

An important step forward was made in 1932, when an extensive grading study was undertaken in co-operation with the Division of Forests Products. Detailed field work extending over five months resulted in preparation of tentative specifications for the major products supplied in Jarrah and Karri. A report covering investigations and recommended specifications was published in 1933 by the Council for Scientific and Industrial Research as Pamphlet 41, "The Grading of Western Australian Timbers."

These investigations have been continued by the Department and this work, together with experience in use of the specifications in actual inspection work, has enabled revision to be made of a number of rules published in the Grading Bulletin. Revised specifications have now been published as Departmental Bulletin 49—"Standard Specifications for Jarrah and Karri."

Based on extensive tests by the C.S.I.R., Melbourne, on mechanical properties of small clear specimens of green Karri and a detailed consideration of all other data available on the strength properties of Jarrah and Karri, tables showing recommended working stresses for the two timbers are included in Bulletin 49 as supplementary to the standard structural specifications.

The system of inspection of merchantable flooring on the Metropolitan market, inaugurated at the request of the Timber Merchants' Association, has now been in operation for nearly twelve months. A factor considerably reducing the quantity of merchantable flooring submitted for inspection has been the introduction of end matched short flooring. This move was inaugurated by one of the timber merchants, and has been partially sponsored by this Department as a sound means of preventing waste by effective utilisation of short flooring which otherwise commands a very low price.

(5) ARBORICULTURE.

During the distributing season which closed on 31st August, 1934, 241,490 trees were disposed of. Of these 38,320 were sold to the public, 1,670 were supplied free to public bodies, charitable institutions, etc., and 201,500 were consigned to the various departmental plantations and arboreta. The order of popularity among the trees was the same as last year, *Pinus pinaster* heading the list with sales of 7,800 and being followed by *Eucalyptus cladocalyx* (Sugar gum), 6,900, and *Pinus radiata*, 4,200. *Eucalyptus ficifolia* (Red Flowering Gum), 1,600, and *Schinus molle* (Pepper Tree), 1,400, also sold well.

CHAPTER IV.

(1).—LEGISLATION.

"Forests Act Amendment Act, 1934."

An Act to amend Section 41 of "The Forests Act, 1918," was assented to on the 25th October, 1934. This is a temporary amendment which has been enacted annually since 1930 and excluded from the provisions of subsection (2) of Section 41 of the principal Act the whole of the revenue derived from sandalwood, and provided for its transfer to Consolidated Revenue. The provisions of the amending Act continued in force until 30th June, 1935.

"Sandalwood Act Amendment Act, 1934."

The "Sandalwood Act, 1929," to regulate the output of sandalwood from both Crown lands and private property was originally enacted for a period of three years only and was extended in 1930 for a further period of two years, expiring on the 31st December, 1934. The amending Act of 1934 repealed the time limit clause in the principal Act and also introduced a new clause defining sandalwood.

Forest Regulations, 1935.

As a reprint of the Forest Regulations became necessary during the year, opportunity was taken to consolidate and revise the whole of the existing regulations and reprint them in a more concise form. These regulations, containing a number of minor amendments, were gazetted on the 21st June, 1935.

(2).—ADMINISTRATION.

The following staff changes took place during the financial year:—

(a.)—Professional Division.

Messrs. J. O'Donnell and W. G. Chandler were promoted to Assistant Divisional Forest Officers as from 1/8/34 and 1/5/35 respectively.

Mr. G. W. Wright was promoted to Assistant Utilisation Officer as from 1/11/34.

One student completed the diploma course at the Australian Forestry School, Canberra, and one student, who had completed one year (1934) at the Australian Forestry School, Canberra, was nominated by the Department as a student from Western Australia for 1935.

(b).—*General Division.*

Two "C" Grade Assistant Foresters were promoted to "C" Grade Forester;
Five Forest Guards were promoted to "C" Grade Assistant Forester; and
Fourteen "D" Grade Assistant Foresters were appointed.

Five employees who had had considerable experience as clerical assistants in Divisional Forest Offices were appointed Forest Assistants.

One "C" Grade Assistant Forester who had reached the age of 65 years was retired; one "D" Grade Assistant Forester reverted to Overseer at his own request; one "D" Grade Assistant Forester resigned, and one "D" Grade Assistant Forester was paid off owing to non-compliance with one of the conditions of employment.

(c) —*Head Office Staff.*

Head Office staff was maintained at practically the same strength as during the previous financial year.

In conclusion, I desire to record my appreciation of the keen interest shown by all ranks of the service in the work and welfare of the Department.

S. L. KESSELL,
Conservator of Forests.

Perth, 7th September, 1935.

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APPENDIX 1a.

CONSOLIDATED REVENUE FUND.

General Statement of Revenue and Expenditure for the Year ended 30th June, 1935.

DR.		£ s. d.		By		£ s. d.		CR.	
								£ s. d.	
To	Log Royalty	68,069	19 0	By	Salaries	13,441	19 0		
	„ Sandalwood Revenue	19,712	12 11		Less Cash Order unpaid	9	5 11		
	„ Hewn Timber Royalty	9,682	13 11			13,432	13 1		
	„ Miscellaneous Royalty	11,278	3 6	„	Travelling and Forage Allowances	1,681	11 5	15,114	4 6
	„ Inspection Fees	6,597	16 4	„	Maintaining State Nursery	70	15 10		
	„ Rents	2,045	10 11	„	Postage and Telephone	154	6 10		
	„ Sales	1,323	7 9	„	Stationery	210	19 6		
	„ Miscellaneous Revenue	521	12 8	„	Travelling	401	8 8		
				„	Freights and Fares	115	1 7		
				„	Material	150	13 1		
				„	Mileage	1,340	18 11		
				„	Miscellaneous	143	9 7		
				„	Sandalwood Expenses	173	7 4		
				„	Wandoo Bark for Tanning	82	7 3		
				„	Allowances P.S. Reg. 76	4	0 0		
				„	Workers' Compensation	351	16 5		
				„	Timber Industry Regulations	210	0 0		
				„	Outstanding Cash Order	0	15 0		
				„	Excess Revenue over Expenditure			3,410	0 0
								100,707	12 6
								£119,231	17 0
								£119,231	17 0

APPENDIX 1b.

Statement of Reforestation and Afforestation Expenditure for the Year ended 30th June, 1935.

DR.		£ s. d.		£ s. d.		CR.	
To	Division No. 1—						
	General	393	16 7				
	Ludlow	3,139	1 4				
	Boranup	356	17 8				
	Keenan's	1,634	17 6				
				5,524	13 1		
„	Division No. 2—						
	General	1,162	3 4				
	Mundaring	7,761	1 0				
				8,923	4 4		
„	Division No. 3—						
	General	2,581	0 0				
	Dwellingup, Huntly, Wuraming and Dun- can's	27,659	17 11				
				30,240	17 11		
„	Division No. 4—						
	General	1,738	19 11				
	Collie, Worsley, Muja and Wellington	15,812	1 6				
				17,551	1 5		
„	Division No. 5—						
	General	1,817	2 10				
	Kirup, Noggerup, Bridge- town, Nannup and Jarrahwood	16,047	15 6				
				17,864	18 4		
„	Division No. 6—						
	General	1,167	1 1				
	Manjimup	13,561	16 5				
				14,728	17 6		
„	Division No. 7—						
	General	542	13 11				
	Narrogin	5,958	15 6				
				6,501	9 5		
„	Division No. 8—						
	General	2,418	9 11				
	Jarrahdale	16,956	19 6				
	Karragullen	6,364	16 6				
				25,740	5 11		
„	Division No. 9—						
	General	554	9 10				
	Applecross	1,555	10 1				
	Collie	880	13 1				
	Gnangara	3,470	17 6				
	Scaddan	906	8 8				
	Pardelup	228	15 9				
	Albany	1	1 3				
				7,597	16 2		
„	Division No. 10—						
	General	1,047	10 10				
	Yarloop, Mornington	20,005	5 7				
	Hamel	532	19 6				
	Harvey Weir	1,019	8 8				
	Myalup	1,903	14 7				
				24,508	19 2		
	Total Divisional Expendi- ture			159,182	3 3		
	Training of Staff	84	18 6				
	Research and Investigation	1,650	9 6				
	Topographical Survey	1,511	3 10				
	Salaries and Allowances	4,925	8 5				
	General Equipment	2,482	4 1				
				10,654	4 4		
	Cash Order Expenditure unal- located at 30th June, 1935			3,974	3 4		
				£173,810	10 11		
						£173,810	10 11

APPENDIX 2a.

Exports of Timber, Tanning Barks, Sandalwood and Essential Oils for the Year ended 30th June, 1935.

Item and Country of Destination.	Quantity.	Value.	Item and Country of Destination.	Quantity.	Value.
TIMBER—	cubic ft.	£	WOOD MANUFACTURES—contd.		
<i>Dressed, N.E.I. :</i>			<i>Furniture :</i>		
Commonwealth of Australia	319	90	Commonwealth of Australia	...	496
United Kingdom	44,701	3,895	United Kingdom ... ..	...	2
Aden	3	...	British Malaya ... ..	...	25
British Malaya	3,484	351	Egypt ... ..	...	11
Ceylon	4,498	448		...	534
India	175	17			£
New Zealand	90	9	<i>Other :</i>		
Mauritius	11	1	Commonwealth of Australia	...	6,710
Egypt	109	10	United Kingdom ... ..	...	31
Germany	1,978	183		...	6,741
Netherlands East Indies ...	1,390	138			
Sweden	1,907	178			
	58,665	5,320	Total, Wood Manufactures		65,494
			Total, Timber and Wood Manufactures		701,960
<i>Undressed, Railway Sleepers :</i>			SANDALWOOD—	cwt.	
Commonwealth of Australia	754,777	84,710	British Malaya	2,246	3,409
United Kingdom	2,700	379	Ceylon	350	543
Aden	4,050	486	Hong Kong	21,108	31,257
British Malaya	6,986	838	India	2,242	3,475
Ceylon	175,024	21,002	China	18,232	27,356
Mauritius	57,882	6,944	France	20	31
South African Union	359,854	40,773	Japan	60	93
Egypt	258,302	30,997	Netherlands East Indies ...	200	310
Iraq	113,722	13,647			
China	556,999	66,840			
Portuguese East Africa ...	43,389	5,096			
	2,333,685	271,712	TANNING BARK—		
			Commonwealth of Australia	26,913	12,910
<i>Undressed, N.E.I. :</i>			China	40	18
(a) Commonwealth of Australia	1,115,612	136,854	Germany	6,007	2,356
United Kingdom	814,920	100,523		32,960	15,284
Aden	967	116	ESSENTIAL OILS—		
British Malaya	6,930	877	<i>Non-Spirituous, N.E.I. :</i>		
Ceylon	63,692	7,643	Commonwealth of Australia	...	4,571
Cyprus	476	57	United Kingdom ... ..	...	15,060
Hong Kong	1,667	105	British Malaya ... ..	...	902
Mauritius	22,982	2,777	Ceylon ... ..	...	65
New Zealand	187,397	22,697	Hong Kong ... ..	...	1,814
South African Union	358,877	43,165	India ... ..	...	78
Egypt	15,591	1,871	South African Union ... ..	...	162
Iraq	14,997	1,800	Argentina ... ..	...	279
Portuguese East Africa ...	127,525	15,683	China ... ..	...	45
Belgium	43,974	5,686	France ... ..	...	83
China	92,368	11,140	Germany ... ..	...	2,812
Germany	36,644	4,814	Japan ... ..	...	8,331
Italy	9,178	1,101	Netherlands ... ..	...	24
Netherlands	19,970	2,525	Netherlands East Indies ...	...	794
	2,933,767	359,434	Philippine Islands ... ..	...	28
Total, Timber Exports	...	636,466		...	35,048
WOOD MANUFACTURES—			<i>Eucalyptus :</i>		
<i>Casks and Shooks :</i>			British Malaya ... ..	...	67
(b) Commonwealth of Australia	...	58,216	Ceylon ... ..	...	53
British Malaya ... ..	...	3	South African Union ... ..	...	113
	...	58,219	Philippine Islands ... ..	...	82
				...	315
			Total, all Exports ... ..	...	819,081

(a) Value includes £1,244 of staves for which no quantity is shown. (b) Includes empty returns.

APPENDIX 2b.

Imports of Timber, Tanning Substances and Essential Oils for the Year ended 30th June, 1935.

Item and Country of Origin.	Quantity.	Value.	Item and Country of Origin.	Quantity.	Value.
TIMBER—	cubic feet.	£	WOOD MANUFACTURES—contd.	cubic feet.	£
<i>Timber, Dressed :</i>			<i>Plywood and Veneers :</i>		
<i>Architraves, Mouldings, etc. :</i>			Commonwealth of Australia	...	29,916
Commonwealth of Australia	...	1,033	United Kingdom	...	57
<i>Tongued and Grooved :</i>			Japan	...	761
United Kingdom	1	1	Norway	...	75
Norway	15,815	1,406	Philippine Islands	...	74
Sweden	7,832	648	United States of America	...	323
	23,648	2,055		...	31,206
(a) <i>Timber, Dressed, N.E.I. :</i>			<i>Spokes, Rims and Felloes :</i>		
United Kingdom	4	4	Commonwealth of Australia	13,211	777
British Malaya	...	2	United States of America	6	9
Germany	...	75		13,217	786
Norway	4,098	373	<i>Tool Handles (including Axe) :</i>		
Sweden	...	20	Commonwealth of Australia	...	4,701
	4,102	474	United Kingdom	...	187
<i>Timber, Undressed—</i>			Canada	...	434
(b) <i>Timber for Making Boxes :</i>			Japan	...	4
Commonwealth of Australia	...	1,312	Sweden	...	14
Canada	95,917	9,458	United States of America	...	3,400
British Malaya	8,764	587		...	8,740
New Zealand	...	2,969	<i>Wood Manufactures, N.E.I. :</i>		
Netherlands	171	154	Commonwealth of Australia	...	18,147
Norway	22,645	2,226	United Kingdom	...	708
Sweden	84,743	7,748	Canada	...	231
	212,240	24,454	British Malaya	...	2
<i>Timber, Undressed, N.E.I.—</i>			Hong Kong	...	16
Commonwealth of Australia	171,123	28,009	Belgium	...	1
Canada	77,982	6,910	China	...	1
New Zealand	25,382	4,458	Danzig	...	1,443
Finland	1,658	90	France	...	57
French Indo China	100	37	Germany	...	245
Japan	644	143	Japan	...	145
Philippine Islands	13,049	1,197	Latvia	...	997
Sweden	2,651	193	Lithuania	...	906
United States of America	70,010	11,270	Norway	...	21
	362,599	52,307	Sweden	...	5,406
			United States of America	...	628
				...	28,954
WOOD MANUFACTURES—			Total Timber Imports	...	211,056
<i>Barrels and Casks :</i>					
Commonwealth of Australia	...	38,713	TANNING BARK—	cwt.	
<i>Clothes Pegs :</i>			Commonwealth of Australia	5,019	2,688
Commonwealth of Australia	...	2,307	TANNING EXTRACTS—		
United Kingdom	...	1	Commonwealth of Australia	...	248
Sweden	...	15	United Kingdom	...	713
	...	2,323	British Malaya	...	42
<i>Furniture :</i>			India	...	201
Commonwealth of Australia	...	16,167	Italy	...	10
United Kingdom	...	3,265	Paraguay	...	99
British Malaya	...	23	Turkey	...	2
Ceylon	...	2	United States of America	...	73
Hong Kong	...	12		...	1,388
India	...	7	ESSENTIAL OILS—		
Austria	...	6	Commonwealth of Australia	...	2,942
China	...	62	United Kingdom	...	62
Esthonia	...	38	British West Indies	...	6
France	...	27	Ceylon	...	294
Germany	...	119	India	...	2
Japan	...	182	Africa French, West	...	1
Philippine Islands	...	1	Austria	...	1
United States of America	...	89	China	...	13
Yugoslavia	...	11	France	...	345
	...	20,011			

(a) Value includes £99 for which no quantity is shown.

(b) Value includes £10,085 for timber imported via Commonwealth States and for which no quantity is shown.

APPENDIX 2b—continued.

Imports of Timber, Tanning Substances and Essential Oils, etc.—continued.

Item and Country of Origin.	Quantity.	Value.	Item and Country of Origin.	Quantity.	Value.
ESSENTIAL OILS—continued.			ESSENTIAL OILS—continued.		
Germany	£ 6	Reunion Island ... ..	...	£ 2
Guiana, French	105	Russia ... ..	...	1
Hungary	6	Spain ... ..	...	17
Italy	384	United States of America ... ..	...	222
Japan	595			
Madagascar	1			5,040
Netherlands	32			
Netherlands East Indies	2			
Paraguay	1	Total, All Imports ... ..	...	220,172

APPENDIX 2c.

Summary of Exports of Forest Produce since 1836.

Year.	Timber.		Sandalwood.		Year.	Timber.		Sandalwood.		Tanning Bark.	Essential Oils.*
	cub. ft.	Value.	Tons.	Value.		cub. ft.	Value.	Tons.	Value.	Value.	Value.
1836a	10,000	£ 2,500	...	...	1886	628,150	£ 50,092	3,431	£ 27,450	...	...
1837	...	...	...	...	1887	354,800	28,384	4,317	34,533	...	...
1838	...	...	...	...	1888	525,750	42,060	4,470	33,525	...	...
1839	...	...	...	...	1889	788,500	63,080	6,385	57,455	...	...
1840	...	...	...	...	1890	1,172,200	82,052	5,136	51,355	...	...
1841	...	...	...	...	1891	1,273,950	89,179	3,760	37,600	...	...
1842	...	...	...	...	1892	1,082,650	78,419	5,716	42,870	...	...
1843	...	...	...	...	1893	512,950	33,888	3,893	32,160	...	...
1844	b	183	...	...	1894	1,063,700	74,804	2,784	23,430	...	...
1845	...	...	4	40	1895	1,255,250	88,146	3,851	30,883	...	...
1846	2,550	255	32	320	1896	1,545,600	116,420	6,848	65,800	...	...
1847	12,200	1,120	370	4,444	1897	2,393,300	192,451	9,852	49,480	...	...
1848	3,350	333	1,335	13,353	1898	4,086,150	326,195	4,349	31,812	...	...
1849	...	...	...	...	1899	6,913,550	553,198	4,081	29,719	...	...
1850	10,500	1,048	...	...	1900	5,725,400	458,461	5,095	39,038	...	...
1851	1,250	268	219	1,593	1901	7,150,600	572,354	8,864	73,931	...	...
1852	7,050	806	...	...	1902	6,256,750	500,533	7,995	61,771	...	...
1853	52,200	5,220	...	...	1903	7,748,450	619,705	4,406	37,913	859	...
1854	58,500	7,023	...	...	1904	8,072,300	654,949	4,510	25,417	32,876	...
1855	76,900	12,076	...	...	1905	8,709,500	689,943	5,521	38,817	154,027	...
1856	70,500	9,671	...	...	1906	8,830,700c	708,993	8,848	70,958	140,720	...
1857	69,200	9,449	280	2,524	1907	6,409,550c	511,923	9,212	65,999	98,773	...
1858	29,250	2,340	745	7,455	1908	9,869,500c	813,591	9,564	76,663	79,934	...
1859	67,250	6,051	1,278	17,259	1909	10,830,450c	867,419	4,805	37,456	59,633	...
1860	54,800	4,932	1,687	16,360	1910	12,074,100c	972,698	8,228	70,775	83,733	...
1861	27,750	2,497	2,553	24,945	1911	12,449,500c	986,341	6,907	65,506	33,470	...
1862	68,800	7,151	2,393	21,541	1912	11,297,100c	903,396	3,154	27,533	49,094	...
1863	32,900	2,963	2,307	25,265	1913	13,619,850c	1,089,481	6,280	47,589	47,377	...
1864	58,300	5,508	2,724	24,520	1914d	6,279,750c	502,153	4,702	39,800	18,197	5
1865	183,950	15,693	1,686	13,490	1915e	9,968,500c	808,392	8,375	78,926	6,127	381
1866	85,650	6,849	2,985	23,722	1916e	5,432,100	441,991	6,271	61,381	10,208	1,102
1867	56,750	4,541	2,305	18,442	1917e	3,890,650	310,893	7,230	72,669	18,969	2,060
1868	8,000	638	3,256	26,045	1918e	3,436,250	274,141	6,504	81,834	16,886	3,995
1869	179,900	14,273	4,124	32,998	1919e	4,135,750	344,119	8,998	117,072	18,875	3,987
1870	157,200	17,551	6,112	48,890	1920e	5,065,300	487,666	14,355	240,579	22,121	3,704
1871	218,500	15,304	3,366	26,926	1921e	9,816,250	1,162,735	10,839	181,801	23,073	10,107
1872	37,000	2,590	3,942	31,536	1922e	8,309,750	1,063,475	3,990	54,769	13,328	6,878
1873	88,150	4,771	6,292	62,916	1923e	7,911,310	1,009,831	7,623	102,912	21,161	20,075
1874	345,600	24,192	7,057	70,572	1924e	11,126,861	1,379,022	14,081	348,713	29,606	39,877
1875	342,350	23,965	6,646	66,465	1925e	11,844,303	1,491,925	6,243	186,775	40,136	42,057
1876	219,050	23,743	6,577	65,772	1926e	12,001,384	1,533,030	7,771	238,203	15,056	47,819
1877	336,150	36,979	4,247	31,851	1927e	12,580,262	1,659,876	6,321	199,754	15,818	26,454
1878	580,900	63,902	4,675	35,064	1928e	10,384,784	1,274,482	4,829	147,426	27,662	39,131
1879	627,250	69,742	4,667	35,001	1929e	7,635,237	967,038	7,582	225,208	35,850	63,307
1880	662,550	66,252	5,197	31,970	1930e	6,579,743	812,112	943	22,228	40,628	77,510
1881	792,750	79,277	7,716	77,165	1931e	4,127,856	533,997	1,606	43,790	35,333	56,170
1882	935,500	93,650	9,605	96,050	1932e	3,062,673	447,188	1,386	40,546	42,016	59,301
1883	997,000	79,760	7,031	56,250	1933e	2,235,540	342,949	3,068	89,846	35,352	26,331
1884	861,700	68,936	2,820	20,960	1934e	4,080,830	563,355	2,508	75,424	20,904	26,720
1885	848,150	67,850	4,527	36,216	1935e	5,326,117	701,960	2,223	66,474	15,284	35,363
TOTAL	317,107,750	31,142,317	417,238	5,090,483	1,361,136	592,334					

a The exports up to the 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. * Principally Sandalwood Oil.

APPENDIX 3.

TIMBER INDUSTRY REGULATION ACT, 1926.

Annual Report for year ended 31st December, 1934.

Improvement in the timber trade has resulted in a number of sawmills resuming cutting operations after having been closed as a result of the general trade depression, and at the close of last year there were fifty sawmills working which were subject to the provisions of the Act. The number of persons employed at these mills throughout the year averaged 1,912, or 547 more than the average for the previous year. Of the men employed 1,820 were of British nationality.

The accidents reported during the year numbered 433, and of these three proved fatal. In two of the fatal accidents the deceased were employed as guards on timber trains, and were killed while carrying out their duties in this capacity. A verdict by the Coroner of accidental death was returned in each case, no blame being attachable to anyone. Death in the third case resulted from a log rolling on an employee at a mill landing during unloading operations. It was held by the Coroner's court that the accident was caused partly by an error of judgment on the part of a fellow employee in allowing a rake of trucks to proceed towards the landing, before the set of logs which was there had been unloaded. The action of the deceased employee in standing in a dangerous position during the unloading operations was also considered a contributing factor.

The number of notifiable accidents that occurred throughout the year to every 100 persons employed was 22.64 and the average period of incapacity was 26.1 days per injured person, or a total loss of 11,325 days.

Investigations carried out by the District Inspector to determine the personal cause of accidents indicated that 42 per cent. of the accidents on timber holdings reported during the year were due to want of care by the injured person.

Returns as listed hereunder have been prepared, but owing to the cost of printing have not been included in this report:—

1. Number of notifiable accidents reported in accordance with Section 14 of the Timber Industry Regulation Act, according to months, and indicating the nationality and age of the person injured, the period of incapacity, the number of occasions on which the first aid outfit was used and the monthly fatigue symbol during the year ended 31st December, 1934.
2. The number of notifiable accidents reported during the year 1934, according to months and days of the week on which the accidents happened.
3. By months, the time at which the notifiable accidents occurred.
4. The number of hours worked on the day and up to the times of sustaining the accidents by persons injured.
5. The number of accidents reported during the year 1934, classified according to the cause of accident and location of injury.
6. The number of accidents reported during the year 1934, classified according to the cause of accident and nature of injury.
7. The number of accidents reported during the year 1934, classified according to the location and nature of injury.
8. The personal cause of the accidents reported during the year ended 31st December, 1934, as determined by the district inspector.

Perth, 7th September, 1935.

S. L. KESSELL

Controlling Officer.