1950 WESTERN AUSTRALIA

REPORT

ON THE OPERATIONS OF

THE FORESTS DEPARTMENT

FOR THE

YEAR ENDED 30th JUNE, 1950

 $\mathbf{B}\mathbf{\tilde{Y}}$

T. N. STOATE, M. Sc. (Adel.), Dip. For. (Oxon.) Conservator Of Forests

PERTH

BY AUTHORITY: WILLIAM H. WYATT, GOVERNMENT PRINTER

Annual Report on the Operations of the Forests Department for the Year ended 30th June, 1950.

INTRODUCTION AND SUMMARY.

THE TIMBER INDUSTRY.

The volume of sawn timber, 10,806,119 cubic feet, valued at £3,272,500, produced within the State during the year ended 30th June, 1950, was 321,500 cubic feet higher than in the previous year. This total production was made up of 7,339,655 cubic feet from Crown Lands and 3,466,464 cubic feet from private property.

Western Australia's sawn timber production from all types of mills is now approximately 92% of the prewar figure of 11,720,652 cubic feet, and the main difference in total timber production is due to the cessation of hewing which in 1938 amounted to 2,573,540 cubic feet.

Because of the waste in hewing, sleeper sawmills were introduced to replace the older method of conversion, and these sleeper mills cut in the current year 1,615,080 cubic feet of sleepers. The total production of timber is only three-quarters of the prewar year of 1938 when it was 14,294,192 cubic feet, made up of 10,237,775 cubic feet from Crown Lands and 4,056,417 cubic feet from private property.

The total number of mills has risen from 134 prewar, employing 3,188 men and producing 11,720,652 cubic feet, to 250 at 30th June, employing 4,109 men and producing 10,805,082 cubic feet of timber. The number of mills within 25 miles radius of Perth was 22 prewar, as compared with 61 at 30th June, 1950. The influence of the big mills is shown by the fact that eleven per cent. of the mills produced 60 % of the timber, though they were not all fully manned. Twenty per cent. of the mills produced 75% of the total output.

A shortage of men in the forest, particularly men skilled in sawmilling, affected alike the manning of existing mills and the building of new mills planned for the increased demand expected in the post-war period. Housing for mill workers as well as actual mill construction has been delayed. Two new mills of large size and one replacement of a similar mill which had been burnt, came into operation late this year and more will be in production next year.

The whole economy of the Timber Industry in this State had been built up on an export trade demanding timber in large dimensions, and consequently mills were designed to that end. The cutting in much greater proportion of small-section timber for house-building involves more cutting than previously with a consequent lowering of production. The sending of flitches to Perth yards for resawing has been commenced, and in some instances band resaws are being obtained for this purpose.

The unfortunate loss of mills through fires originating in the buildings has added to the difficulties, and two more large mills, Jarrahwood and Jarrahdale, were lost in this way this year. The rebuilding of these mills has delayed the general mill-building programme.

The railway sleeper has always been an interesting production line in Western Australian hardwoods, which are used by both the Commonwealth and South Australian State Railways. During the year under review, 1,616,117 cubic feet of sleepers were produced, compared with 4,614,884 cubic feet before the war. Much the same volume, about 700,000 cubic feet, is used in Western Australia as prewar, but there was formerly a very big export trade in sleepers.

Three hundred and ninety-seven thousand three hundred and forty seven cubic feet of pine logs were milled, of which 337,022 cubic feet came from Departmental plantations. The sawing of Marri (*Euc. calo-phylla*) is increasing, and 130,160 cubic feet of logs were converted this year.

Plywood production within the State continued to expand. In the past year, 144,411 cubic feet of selected Karri logs, 70,617 cubic feet of logs of imported timbers, and 8,738 cubic feet of pine logs were used for peeling, and over 6,000,000 square feet of plywood was produced. The demand for pine peeler logs is an increasing one, and the pruning of pine plantations for the production of this high-priced product is being carried on as labour is available.

With the object of training more men for the Timber Industry, the Forests Department re-instituted the school for "fallers." These new men were newcomers to Australia, being all displaced persons. The first group of 16 of these men turned out of the school have taken their places in the industry and with more experience will become proficient in a very skilled trade. Assistance to sawmillers was continued by falling milling timber in a number of centres.

Although still low, the gross revenue of the Department rose to £318,940 during the year, as compared with £238,357 for last year and £300,199 for 1947–48. The net revenue was £218,652. The principal contributory causes of this present low revenue of the Department are the low output of timber from Crown Lands, and the loss of the Sandalwood trade. At the beginning of the year an increase of nearly 30 per cent. in the average log royalty rate was effected, but this has not yet been fully reflected in revenue due to two mills being lost and to the fact that several large mills are not yet fully productive.

Sandalwood, which in the past was an important item of trade, has not recovered its market. Distillation of sandalwood oil within the State continues chiefly because of its use in soaps and perfumes.

Some progress was made during the year with the thinning on a commercial scale of the young Mallet forests. In addition to tanbark, the thinnings yielded mining timber for the Murchison Goldfields.

The honey industry, dependent to a large extent on State Forest, exported 532 tons of honey, valued at more than £67,000. Attention has been focussed on the Karri and Wandoo forests, two important honey sources. Beekeepers have stressed the importance to their industry of fire control in the Karri forest. A total of 126 apiary sites are held under permit by 37 permit holders.

Amongst forest produce of importance from Crown Lands may be mentioned Wandoo for tannin extract, totalling 18,846 tons; Mallet bark 353 tons; mining timber 2,027 tons, and 357,467 lineal feet of piles and poles.

Firewood supplies for the Metropolitan Area, which for the last decade were a matter for concern each winter and required special assistance by the Forests Department, have now returned to normal. Requirements are now met by permit holders on State Forest.

The long dry fire season this year was a particularly trying one, and a much greater area of forest than usual was burned over. Approximately 3% of the fully protected one million acres was burnt.

Locomotive fires in the prohibited period swept a section of forest at Dwellingup, but the worst trouble occurred following the beginning of farmers' "burning off" operations in the southern zones. Fires from these operations began to breakaway in numbers on Sunday, March 12th, and continued to do so for more than a month.

Of the 569 fires attended by Departmental gangs, 242, or approaching 50%, either entered the forest or our firebreaks from private property, or were suppressed in the private property, and 95 were started by locomotives. Nearly all of the serious fires involving large expenditure for their suppression were from private property, and these constituted the great menace to our forests. The resources of the Forests Department built up gradually and still being expanded were severely taxed by these fires.

The season represented a national emergency in farming areas recognised by Government and private relief to farmers.

In December, 1949, a Conference of senior Australian Foresters was called by the Right Hon. the Prime Minister, and on invitation from the State Government, was held in Western Australia under the Chairmanship of the Director General of the Forestry and Timber Bureau. Delegates from all States visited points of interest in our State Forests and in the inland forests.

A number of papers of value to Australian Forestry as a whole were presented and Conference expressed confidence in the management and practice of Forestry in W.A.

As the proceedings of the Conference will be printed by the Commonwealth Government, the resolutions are not set out in this report.

During the year officers of the Department contributed a number of technical papers which have been printed as Departmental Bulletins and revision has been made of several obsolete publications. These Bulletins are listed in Appendix 4 of this report.

The administration of the Timber Industry Regulation Act is briefly reported on in an appendix attached hereto. During the year 598 inspections of timber holdings were made; 545 notifiable accidents, including 8 fatal accidents, were investigated. The average period of incapacity was 22.4 days per person injured. There were 3,859 persons employed on timber holdings; 235 sawmills were registered for the calendar year, 1949, and of these 120 operated on private property. At June, 1950, the total number of mills had risen to 250.

REVENUE.

The gross revenue of the Department for the year ended 30th June, 1950, was £318,940 as compared with £238,357 the previous year.

Royalties and Rents produced £206,437 which is an increase of £55,526 on last year's figure. There was an increase in revenue from Sandalwood to £42,247 from £31,743 last year.

Of the amount of £70,257 collected under the heading of Departmental, the major items are sales of Firewood £38,688, Sales of Pine Timber £19,877, and Inspection Fees £3,267.

Goldfields revenue amounted to £10,742 as compared with £10,086 for the previous year.



THE FOREST AREA.

1. State Forest (Forests Act, 1918).—

The area of State Forest as at the 30th June, 1950, was 3,410,406 acres, an increase of 7,443 acres, as compared with the acreage for the previous year; 443 acres were excised from State Forest during the year.

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

The total area of timber reserves was increased to 1,799,658 acres by the addition of 10,035 acres.

SAWMILLING AND HEWING.

The production of sawn timber during the year showed an increase of over a quarter of a million cubic feet as compared with the previous year.

The log intake for the year was 31,013,809 cubic feet and the recovery of sawn and hewn timber was 10,806,119 cubic feet (30,076,097 and 10,484,619, respectively, in 1948–49).

Shortage of labour in the larger mills was again the chief factor in preventing a return to normal production conditions, and lack of materials retarded the completion of several mills. The loss by fire of Jarrahdale Mill on 17th August, 1949 and Jarrahwood Mill on 23rd March, 1950 was a serious blow to the industry.

Hewn timber totalling 1,037 cubic feet was produced as compared with 5,644 cubic feet for the previous year.

Departmental plantations yielded 337,022 cubic feet of the 397,347 cubic feet of pine milled during the year.

The intake of Marri (Red Gum) was 130,160 cubic feet in the round, as compared with 289,023 cubic feet for the previous year.

Locally grown peeler logs totalled 118,463 cubic feet, the principal species used being Karri (109,406 cubic feet) and Pine (8,738 cubic feet).

The average number of men employed on timber holdings each month for the production of sawn timber (including bush workers and men employed under the mill roof) was 3,859 for the year ended 31st December, 1949, as compared with the average of 3,629 for the year ended 31st December, 1948.

TIMBER INSPECTION.

Sawn and hewn sleepers inspected during the year amounted to 1,445,596 cubic feet while sawn timber other than sleepers submitted for inspection totalled 191,710 cubic feet.

The number of piles and poles inspected was 1,425 amounting to 46,359 lineal feet.

TIMBER PRODUCTION.

Production of Timber for Year ended 30th June, 1950 (exclusive of Mining Timber, Firewood, Piles and Poles.)

		<u> </u>	IILL LOGS	S.		HEWN :	TIMBER.	GRAND	TOTALS.
·				To	TAL.	Towns	,		
	Jarrah	Karri	Other	In Log	Recovery of Sawn Timber	Jarrah in Log	Jarrah in Square	In Log	In Square
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crown Lands Private Property	Cub. ft. 16,293,399 8,057,209	Cub. ft. 3,803,525 989,982	Cub. ft. 979,502 885,007	Cub. ft. 21,076,426 9,932,198	Cub. ft. 7,338,714 3,466,368	Cub. ft. 4,705 480	Cub. ft. 941 96	Cub. ft. 21,081,131 9,932,678	Cub. ft. 7,339,655 3,466,464
GRAND TOTALS	24,350,608	4,793,507	*1,864,509	31,008,624	10,805,082	5,185	1,037	31,013,809	10,806,119

Figures in columns (1), (2), (3), (4), (6) and (8) are in the round based on full volume measure. Figures in columns (5), (7) and (9) are the volumes of sawn or hewn timber in the square.

^{*} Comprises:—882,046 cubic feet Wandoo; 397,347 cubic feet Pine; 272,448 cubic feet Blackbutt; 130,160 cubic feet Marri; 92,928 cubic feet Sheoak; 64,170 cubic feet Tuart; 15,232 cubic feet Morrell; 4,568 cubic feet Peppermint; 3,866 cubic feet Bullich; 1,390 cubic feet Flooded Gum; 316 cubic feet Yate; 38 cubic feet Banksia.

THE QUANTITY OF SAWN AND HEWN TIMBER PRODUCED FROM CROWN LANDS AND PRIVATE PROPERTY FOR THE PAST TWO YEARS IS SET OUT IN THE FOLLOWING TABLE.

	I	ROM	CROWN L	ANDS.	FROM PI	RIVATE PR	OPERTY		Estimated	
Year.	Sawn Tother of Sleepe	than	Sawn Hewn Sleepers. Sleepers.		Sawn Timber other than Sleepers.	Sawn Sleepers.	Hewn Sleepers.	Total Quantity.	Value of Timber Obtained.	
1948–49 1949–50		ft. 8,788 0,279	Cub. ft. 1,149,366 1,088,435	Cub. ft. 737 941	Cub. ft. 2,917,311 2,939,723	Cub. ft. 503,510 526,645	Cub. ft. 4,907 96	Cub. ft. 10,484,619 10,806,119	£ 2,647,300 3,272,517	

TIMBER CONTROL AND PLANNING.

Liaison has been maintained between the Forestry and Timber Bureau, Savmillers and the State Housing Commission, on production and distribution of sawn timber, particularly with regard to the Commission's efforts to obtain more timber for the Housing programme.

Sleeper Sawmill Permits were originally issued on condition that logs would be hauled in lengths not exceeding nine feet. In an endeavour to relieve the acute shortage of timber for housing, approval was given to the changing over of these sleeper mills to general purpose mills. Because of the expenditure involved in alteration of the mill and in providing for the hauling of long length logs, very few Sawmillers accepted the offer. However, sleeper production has shown a decided drop over the six months January to June, 1950, mainly due to the fact that more short length scantlings are being cut at these sleeper mills.

Conferences have been held with Sawmillers on the proposal to establish an Amenities Fund for men employed in the timber industry. In view of the mills being scattered in many parts of the State and the great variation in the number of employees, it was decided that it would be impracticable to operate an Amenities Fund in the timber industry. A conference of the Honorary Minister and Sawmillers decided that better housing, lighting and facilities such as licensed clubs, playing fields and other sporting and entertainment facilities should be provided by the companies and that schools, improved roads and better transport should be provided by the Government.

Owing to the Railway Department's inability to haul all timber produced, a subsidy has been paid on the road haulage of timber for two periods, July to September, 1949, and April to June, 1950. During these two periods a subsidy was paid on approximately 9,000 loads of timber.

The first of the two-compartment seasoning kilns built by Whittaker Bros. with Government assistance commenced operating early in 1950. and the second unit came into operation towards the end of March. This plant should be able to handle 2,000 loads of 1 inch boards a year, and will cater for the seasoning of boards if required by other firms.

Cabinet instructed that a conference be arranged between the Prices Commissioner, the Chairman of the Advisory Committee, the Co-ordinator of Timber Supplies and Mr. Gregson to discuss the question of de-control of timber prices and, as an alternative, any alterations in the present system which may be considered desirable or likely to produce more timber. The Conference decided that supplies were insufficient to justify de-control and recommended certain action with regard to automatic adjustment of prices with any increase in the basic wage, subject to an annual review.

At the request of the State Housing Commission, owing to the shortage of seasoned timber, the Railway Department was induced to supply a number of seasoned sleepers to joinery firms. There is still a keen demand for these seasoned sleepers, which have proved very satisfactory for the purpose, but the Railway Department cannot supply further quantities owing to the fact that all available stocks are required for rehabilitating the railways.

FIREWOOD PRODUCTION.

 \mathbf{T}

e estimated total consumption of fire Metropolitan Area			••••	·				Tons.	Tons. 259,826
Goldfields Area—									
								1 55 001	
Mining		••••	••••		•	••••	• • • • • • • • • • • • • • • • • • • •	157,321	
Nos. 3 to 8 G.W.S. Pumps				••••				21,836	
Domestic and Other uses					••••			68,142	
									247,299
Nos. 1 and 2 G.W.S. Pumps									21,551
		••••				••••	••••		•
Mill waste used as fuel by sawmill	ers		••••	* ****	. • • • •	••••	••••	••••	139,974
Country Centres		•	. ••••	•	••••	••••	•	••••	65,000
								· · · · · ·	
				•		-			733,650

Approximately 69 per cent. of the total consumption was supplied from Crown Lands, as follows:-

Goldfields licences and permits								Tons
Mill waste used or sold by Sav	vmille on	 Стоти	7	••••	••••	•	••••	235,224
Firewood Permits (South-West)	, , , , , , , , , , , , , , , , , , ,	Crown L	ana	••••	••••		••••	154,442
Miscellaneous Licenses, etc.			••••	••••	••••		••••	89,938
			••••	••••		•	••••	1,713
Supplied by Forests Departmen Nos. 1 and 2 G.W.S. Pumps	t—							
Petty Contractors 1 7:					\mathbf{T}_{0}	ons.		
Petty Contractors and Piec Ex Stack North Dandalup	ework Cu	tters	••••	••••	17	,130		
Ex Bartons	and mair	шир	****	••••	3	,038		
••••	••••	••, ••••	••••	••••	1	,383		
Donnybrook Daland							21,551	
Donnybrook Dehydration	••••		••••			295		
Hospitals, Institutions, etc.		· ·	••••	••••		424		
					·		1,719	
								23,270
								504,587

The Department continued to supply a quantity of firewood to Hospitals and Government Institutions.

Owing to the fact that a large reserve of firewood was built up during the winter months, the position at Nos. 1 and 2 Pumping Stations was very satisfactory this year. Good reserves have been established again and no difficulty of maintaining supplies is expected in the forthcoming year.

SANDALWOOD.

The quantity of sandalwood exported during the year was 194 tons, as compared with 158 tons for the previous year. The market in China remained limited and owing to prevailing conditions, it is difficult to forecast the future of the industry in that country.

Orders were placed for 200 tons of sandalwood logs and 10 tons of sandalwood pieces for export, and 330 tons of sandalwood logs for oil distillation purposes within the State.

The quantity of sandalwood delivered under orders is set out in the following statement:-

From Crown Lands—					-	Oil Distillation. tons.	Export.
Logwood Roots and Butts	••••	••••	••••			264	70
Old Roots and Stump	••••	••••	••••	••••		10	
From Private Property	8		••••	••••	••••	6	••••
=== ato Porty	••••	••••	••••	••••	••••	Nil	Nil
						280	70

The quantity of sandalwood oil produced by local distillers during the year was 10,559 lbs. and 7,273 lbs. were exported.

FOREST PRODUCE.

Piles and Poles totalling 357,467 lineal feet were obtained from Crown Lands, and records available show a total of 289,701 lineal feet supplied from private property. In addition, an unknown quantity from private property goes into local use for which this Department has no record.

Tanning materials from Crown Lands totalled 353 tons of Mallet Bark and 18,846 tons of Wandoo for the production of tannin extract. Private property supplies were estimated at 461 tons of Mallet Bark and 42,438 tons of Wandoo.

Mining timber in the round from Crown Land licenses and permits totalled 9,598 tons. In addition, the Department supplied directly 9,949 cubic feet made up of mallet firing sticks and lagging and wandoo logs. Sawn timber for mining purposes is, of course, supplied in the usual way by timber merchants, and in addition supplies of round timber, totalling 9,698 tons from private property were recorded. Numerous other items of forest produce including Charcoal, blackboy, boronia, bean sticks, stone and sand are shown in the attached table.

FOREST PRODUCE NOT ELSEWHERE INCLUDED IN PRODUCTION TABLES OBTAINED DURING YEAR ENDED 30TH JUNE, 1950.

Description of Forest Produce.	South-West I Agricultur		Northern Central and Eastern Goldfields.	Total.
Dosarpion of Details	Crown Lands.	Private Property.*	Crown Lands.	
Mining Timber	2,027 116,199 42,431 112,011 125 120 357,467 128,695 353 18,846 2,653 30,659 173 997	9,698 2,190 22,919 27,963 289,701 3,354 461 42,438 119 	7,571 16,263 51,957 †195,342 53 3,756 	19,296 Tons 16,263 Cub. ft. 170,346 Tons 65,350 195,342 139,974 178 120 647,168 Lin. ft. 135,805 No. 814 Tons 61,284 2,772 lbs. 30,659 No. 173 Cub. yds. 997 "

^{*} Complete figures for private property are not available. Only information furnished to the Department has been included.

† Includes 12,075 tons ex private property.

FOREST OFFENCES.

Sixty-four forest offences were reported to Head Office during the year.

In one case, proceedings were taken against the offender for the illegal removal of timber and the improper use of a brand. Fines amounting to £9 10s. and £14 14s. costs were inflicted.

The remaining offenders were either warned or dealt with by charging royalty, forfeiture of deposit, or the confiscation and sale of timber illegally cut.

The amount received by the Department in this way totalled £438.

EXPENDITURE.

Expenditure totalling £108,868 charged against Consolidated Revenue Fund included £46,971 in respect of the General Administration of the Forests Act and Regulations and £1,460 to cover the cost of administering the Timber Industry Regulations Act. Pine Conversion accounted for £11,449, while firewood production and other direct conversion projects involved an expenditure of £48,988.

Detailed statements of expenditure from Forests Improvement and Reforestation Fund and General Loan Fund, appear in Appendices 1B and 1C respectively.

The following statements show the transactions on Forests Improvement and Reforestation Fund during the year and the apportionment of the net revenue of the Department.

FORESTS IMPROVEMENT AND REFORESTATION FUND.

General Account	Balance, 1st July, 1949—							£	s.	d.	£	8.	d.
Motor Vehicle Depreciation Account 392 19 2 Three-fifths Net Revenue 130,914 9 5 Treasury Grant 87,000 0 0 Commonwealth Aid Roads Grant 25,154 5 0 Commonwealth Aid Roads Grant 4,000 0 0 E253,882 1 1 Less Expenditure— Ceneral Account 218,437 4 0 Purchase of Vehicles from Depreciation Account 9,344 0 9 Commonwealth Aid Roads Grant 255,154 5 0 252,935 9 9 Balance at 30th June, 1950— General Account 124 2 6 Commonwealth Aid Roads Grant 124 2 6 Commonwealth Aid Roads Grant			••••		••••	••••	Dr.	4,256	15				
Three-fifths Net Revenue	Motor Vehicle Depreciation Account	•				••••	Cr.	4,649	14	7	909	10	9
Three-lifths Net Revenue	1												5
Commonwealth Aid Roads Grant		••••	••••									Ō	0
Direct Credits	Commonwealth Aid Roads Grant	•											0
Allocation to Motor Vehicle Depreciation Account	Direct Credits		••••		••••	••••	• • • • •	••••					-
Less Expenditure— General Account	Allocation to Motor Vehicle Depreciation Account	••••	••••	••••	••••	••••	••••				4,000	U	U
Less Expenditure— General Account											£253.882	1	1
Commonwealth Aid Roads Grant	Tara Tamon dituna												
Commonwealth Aid Roads Grant							2	18,437	4	0	*		*
Commonwealth Aid Roads Grant				••••	••••	••••	••••	9,344	0	9			
Balance at 30th June, 1950— General Account	Commonwealth Aid Roads Grant	••••			••••	••••	••••	25,154	5	0	252 205	_	
General Account											252,935	9	9
General Account	T 1									Ī			
General Account								194	2	6			
			••••		••••	• ••••	••••		_	_			
946 11 4	mood volide poptodation moodate							•		_	946	11	4

APPORTIONMENT OF NET REVENUE OF DEPARTMENT.

Gross Revenue for year 1949-50 Less Revenue from Firewood, etc.	••••					••••	••••		••••	£ 	s.	d.	£ 318,940 40,876	4	d. 1 3
Consolidated Revenue Fund Experiess Expenditure on Firewood	nditure 				••••	••••		· 		108,867 48,988			278,063	10	10
Less Timber Industry Regulations	, Salari	es and	Incide	entals		···;·				59,879 1,459	16	3			
Salary of Conservator Audit Fee					····	••••	••••			58,419 1,300 120	0	0			
									-			_	59,839	10	11
Net Revenue			····	••••	••••			••••		••••		-	£218,223	19	11
Three-fifths Net Revenue Deduct amount overcredited year	 1948–4	 9				••••		••••		····		-	130,934 19		9 4
Three-fifths Net Revenue credited	to the	Fund	during	the y	ear 1	949-50		••••	·	••••		:	£130,914	9	5

REFORESTATION.

The total area of Jarrah and Karri on Crown Land and State Forest cut over during the year amounted to 67,285 acres, including 1,461 acres of Karri. Of this area, 44,277 acres were treemarked in accordance with our sylvicultural practice and working plan control to ensure regeneration and perpetual yield. This cutting was followed by top disposal work for the protection of the immature growing stock remaining. A total of 18,855 acres received this treatment.

Management and protection is being extended into areas in the far South-West on which also mills are about to operate.

The road and track system upon which management and protection to a large extent depends was increased to a total of 12,201 miles by the addition of 160 miles. Maintenance grading covered 2,552 miles.

ROAD CONSTRUCTION AND MAINTENANCE.

Division.				Construction. Miles.	Maintenance. Miles.
Mundaring	••••	••••		 6	185
Dwellingup				 19	665
Collie	•	••••	••••	 13	369
Kirup	••••			 43	554
Manjimup	••••		••••	 58	263
Narrogin	••••		••••	 ••••	83
Harvey		••••	••••	 14	253
Pemberton	••••		••••	 7	180
100					
				160	2,552

In addition, the Department undertook construction of several special roads for the Main Roads Department, for which Federal Aid Road Grant money was made available. These roads, built to Main Roads Department specifications, totalled 16 miles, chiefly in the Kirup Division.

Housing of married employees in the forest was increased by the building of 38 houses, bringing the total to 247 residences apart from single men's quarters.

AFFORESTATION.

Pine Plantation.

The provision of Loan Funds totalling £29,995 in 1948–49 and £113,597 in the year under review has made possible a resumption of pine planting. The immediate aim is to plant 2,000 acres per annum rising to 5,000 acres after the organisation is developed, with a total target area of 200,000 acres for the State.

The total area of pine plantations is now 13,108 acres.

During the year under review, 376 acres of pine were established and 3,390 acres were cleared or part cleared.

A substantial increase in the plant and equipment at all plantations has been made to enable clearing progress to be maintained and the use of New Australians on pruning, clearing and planting has proved satisfactory.

Pruning for	the year is	recorded	at:-	<u>.</u>				
• •	Mundaring				acres	low	212 acres	s high pruning.
	Gnangara			. 76	acres			
	Collier			78	acres			
	Somerville		••••	259	acres			
	Ludlow		••••	97	acres			· /
	Grimwade	••••						
	Keenan		••••	122	acres			
	Total			1,160	acres	an	d 212 acre	s of high pruning.

This work, which had fallen into arrears is essential to the future of the plywood industry and for the production of high grade pine products.

Expenditure by plantations is given in Appendix 10.

Thinning of plantations continued and small pine mills now operate on a permanent basis in Mundaring, Gnangara, Grimwade (East Kirup) and Ludlow Plantations.

The plantations of the State produced 337,022 cubic feet of logs representing 26 cubic feet per acre over the whole 13,000 acres. This output will, of course, increase annually with the age of the pines.

The produ	uction of pine logs by	plant	ations	was as	follow	s :—			
_ _	1 9 1	-					Ct	ıbic feet.	
	Collier							5,509	
	East Kirup	••••	••••		••••	••••		3,425	
	Gnangara	••••	••••		• ••••			10,227	
	Hamel		••••					8,149	,
	Harvey Weir	·						21,092	1
	Ludlow		••••			••••	••••	11,996	
	Mundaring Weir		٠			••••	•	276,624	
							. -		
	Total							337,022	cubic fee

Mallet areas totalling 296 acres were thinned and 302 acres of new plantation sown. Three hundred acres for 1951 sowing were cleared.

In the course of clearing, 65 tons of bark was recovered and 2,642 lagging poles and 5,282 lengths of mining timber were obtained while lagging poles and firing sticks totalling 10,855 were recovered from thinnings.

The mallet plantations now total 17,865 acres.

FIRE CONTROL.

The 1949-50 fire season was notable for the persistent dry weather through March and April after the end of the prohibited period.

Following a series of dry summers the season broke a 70-year record for the December-April period, with a rainfall of 49 points against an average of 558 at Perth.

October and November registrations were above normal and thus curtailed spring burning operations, but from the last fall in November on the 19th to the end of March, a period of 132 days, there were only six days on which rain fell, for a total precipitation of only 34 points, the highest single recording being 15 points on the 5th January.

One factor that did much to aggravate the severity of the season was the phenomenally low relative humidities recorded. There were 49 days on which the relative humidity fell to 25% or less. These include 27 days below 20%, eight below 15% and two below 10%.

On several occasions the nightly humidity did not reach 40% and this militated greatly against the success of consolidation measures normally easily carried out during the cooler night hours.

In all, a total of 569 fires were attended by Forests Department fire gangs, the average for the past 10 years being 365. The causes of these fires were as follows:—

W.A.G.R. locos	****				•		••••	43
Mill locos	•			••••	•			$\bf 52$
Escapes from co	ntroll	led bur	ning				••••	16
Bush workers	••••	••••	••••	••••		••••	••••	20
Navvies			****	••••	••••	••••		4
Hunters and fish	aers				••••	****		21
Householders								6

FIRE CONTROL—continued.

Private property					•	242
Travellers			••••	••••	••••	19
Lightning		••••	••••	****	. ****	
Deliberately lit		••••			••••	6 70
Children		••••	••••	••••	••••	• •
Mill surroundings	••••		••••	••••	••••	9
Other Government employees		••••	••••		••••	- 11
Mine surroundings	••••	••••	••••	••••	••••	6
Stockmen		••••	••••		••••	2
Unknown	••••	••••	••••	••••	•	4
•		••••	••••	••••	••••	38
						700
						569

The most serious problem was the private property fire which threatened or entered the protected forests. Compared with 99 in the previous year the number rose this season to the record of 242. In the dry weather which persisted after the Protected Period closed, fires could be held only with extreme difficulty, and as a consequence, large numbers broke away out of control. Approximately half the private property fires which had to be attended by Forests Department gangs were confined before they reached the forest, and half had to be suppressed either in the boundary firebreaks or after having entered the forest.

A total area of 32,285 acres were burnt over in the intensively protected zone of one million acres. Not more than one third of this was severely burnt. Advantage was taken of the opportunity to carry out flank burning at night in the more extensively protected areas where sufficient controlled burning had not been possible prior to the beginning of the prohibited period.

The unprecedented call on the fire gangs taxed the departmental organisation beyond its capacity. Without the ready help forthcoming from the Timber Industry the situation could not have been met.

A further disturbing feature of the problem of fire-control in our forests was the high number, seventy (70), of incendiary fires. Most of these were in the one district, Collie, and eight of them were lighted in pine plantations.

Locomotives created the next worst hazard and moreover, are liable to occur in the hottest weather in the prohibited period.

Departmental fire gangs effected several saves of property other than forests during the year. Included were considerable areas of pasture, several sawmills, dwellings, bee-hives and one aeroplane. In one instance where the mill was destroyed, a Departmental gang and heavy duty outfit saved the mill stores, offices, oil store, most of the sawn timber and undoubtedly prevented the destruction of at least some of the houses.

COMMUNICATIONS.

The use of two-way radio communication is now firmly established, and good results were achieved during the past Fire Season. A total of 57 vehicles were equipped with two-way radio, an increase of three, while fixed stations operating were 16, no increase over 1949–50.

Changes in the frequency channels made available by the Postmaster General necessitate modifications to all equipment and this work is nearing completion. The change to new frequencies this year was only partial, as the season was an extremely busy one, and a full change over could not be made. At the end of the Fire Season all mobile equipment was withdrawn for overhaul and modification, the fixed stations remaining in operation.

Four portable man-pack sets were tested during the Fire Season, and they appear to offer the solution of supplying communication to men on foot near the face of a fire, and also to areas not easily negotiable by vehicles equipped with radio. Further testing is proposed to ascertain their full capabilities.

Midday fading of signals was again experienced last Fire Season, and information received from the Radio Research Board indicates that this is a national phenomenon. This disability is being met by increasing the power output of the smaller mobile transmitters used.

A further 12 sets of Disposals radio equipment have been purchased and are being modified to our specific needs, so as to establish reserve equipment for anticipated expansion and provide working spares.

The departmental telephone system was maintained over 1,310 miles but due to shortage of wire only six miles of new lines were erected.

WORKING PLANS.

During the year working plan proposals were drafted to cover pine thinnings for Grimwade, Ludlow and Keenan Plantations based upon air photos.

A Photo Working Plan was prepared to cover the future requirements of photos for the indigenous forest and submitted to the State Mapping Committee for inclusion in the programme of aerial photography under consideration by that body.

A general plan for pine planting in Western Australia was drafted.

The work of establishing permanent assessment lines in the jarrah forest, on which information future revisions of the General Working Plan depends, was continued. Eighteen miles of line were established.

Preliminary type maps from aerial photographs were prepared over seven areas comprising a total of approximately 107,000 acres and other projects covering some 300,000 acres commenced.

Some revision of earlier maps, following field work, was also carried out.

New equipment comprising a "slotted template" set up and "Multiscope" were acquired and proved of great assistance in this work.

A very limited amount of topographic survey and new road location was undertaken during the year.

Compilation of one new litho and revisionary work on three others was completed ready for reproduction.

ARBORICULTURE.

Hamel.

A total of 52,826 trees were distributed from this Nursery during the winter of 1949 of which 46,000 were sold to country residents and local authorities and 6,677 supplied for Departmental use.

The total was somewhat less than in the previous year due to unfavourable weather conditions and to the curtailed railway service due to industrial trouble in Collie in 1949.

As usual the Sugar Gum (*Euc. cladocalyx*) with sales of 10,317 proved to be the tree most in demand, closely followed by Monterey Pine (*Pinus radiata*) of which 10,262 plants were sold.

Altogether over 90 different species were raised and distributed.

Inland Areas-Nursery Work.

During the 1949 season 11,814 trees comprising 38 species were despatched to various arboreta, Road Boards, farmers, local mines, etc. The distribution of the 198 orders was as follows:—

Wheat	Belt						••••		9,414
A	rboreta							3,459	
\mathbf{F}	armers							3,236	
\mathbf{R}	oad Boar	ds						2,335 .	
S	chools							192	
S	porting B	odies						142	
	gricultura		arch S	stations			••••	50	
Local									2,123
	ouncils	••••		••••	••••			712	•
-	ouncus fold Mines	,	••••	••••	••••	••••	••••	579	
-	Iouseholde		••••	••••		••••	••••	418	
	chools		••••	••••	••••	••••	••••	280	
	ocal Boar	ds, etc	····	••••	••••		••••	134	
South	West				****		••••		277
								. –	
					Total	••••	••••	••••	11,814

This figure gives an increase of almost 87% on last year's figures.

Arboreta.

During the year arboreta were established at Mendels Station, via Mullewa, Merredin, Mingenew, Moora, Morawa, Northampton and Yuna. To date results have been encouraging.

Seed Supplies.

During the year the Seed Store sold seed of 124 species totalling 142 lb. 6.95 oz. weight, to a value of £363 6s. 9d., while seed used for official use covered 44 species and a total weight of 426 lb. 4.2 oz. and valued at £151 19s. 0d.

RESEARCH.

The new bulletin on pine nutrition was completed and will shortly be available for issue. Problems of autumn disorders in *Pinus radiata* and *P. pinaster* received further attention. Pathological tests did not reveal any trace of a parasitic organism.

In the study of pine nursery practice and nutrition consideration was given to pre-emergence and post-emergence damping-off, the stimulation of germination in seed of *Leiris* strain of *P. pinaster*, and the use of composts in nursery soils.

A number of fungicidal treatments were tried for combating a low-order fungus attack on planting stock. The causal fungus has not yet been identified.

Thinning experiments with a number of thinning treatments set down in 1937 in stands of *P. pinaster* of 10 years of age were remeasured and a report with the results at 23 years of age is in course of preparation.

In the field of genetics, investigations are being carried out to determine the progeny type of elite trees for comparison with the general stock from ordinary seed suppliers. Pollen germination and storage trials are being made as a step towards controlled pollination for intra and inter-specific hybridisation. Fundamental cytological studies in the various strains of *P. pinaster* are in progress and a detailed examination of the flowering characteristics and times in the various strains is being made as an adjunct to the hybridisation trials.

An anatomical examination of the needles of the strains of *Pinus pinaster* has been made as part of the broad study of the species.

Jarrah growth problems were investigated at the recently established Dwellingup Forest Research Station to which equipment is slowly coming forward. Soil surveys were undertaken of two areas and a study of these soils is being made as a first approach to the problem of certain disorders in Jarrah. At the same time fertiliser treatments have been continued in the hope of finding a chance corrective. An examination of tissues of disordered trees for pathogenic organisms as a causal factor yielded negative results.

A study of the effect of fire on plant tissues was initiated to accompany the ecological studies on fire effects.

Further trees for remeasurement were established on all assessment lines in Jarrah and Karri stock-taking.

In co-operation with the Division of Forest Products of the Commonwealth Scientific and Industrial Research Organisation, experiments have been planned to test Jarrah, Karri and Marri railway sleepers in a number of different treatments under arid and semi arid conditions. Other subjects to which attention is being given include general extractives in Jarrah, colouring matters in Eucalypts, waste utilisation, chemical tests for Jarrah and Karri, a tannin survey, and a further cross-arm survey.

A number of timber identifications has been made by the Forests Department in answer to specific inquiries from the general public. These frequently involve detailed microscopic examination for classification, and cover local and imported timbers.

Moisture content determinations were made for the trade on request.

A survey of lyctus-susceptible woods used in Western Australia was initiated.

STAFF.

The following staff matters are of interest:-

Mr. A. C. Shedley who was appointed Co-ordinator of Timber Supplies in May, 1949, continued to act in this position.

Mr. D. W. R. Stewart was awarded the Russell Grimwade Prize for 1949, and left for England on 27th February, 1950, to undertake a post graduate course at the Imperial Forestry Institute, Oxford, under the aegis of the Commonwealth Forestry Bureau.

Mr. E. S. Budd was appointed Chief Clerk on 21st December, 1949.

Mr. R. K. Reid was appointed Registrar on 27th April, 1950.

LIST OF APPENDICES.

		Page
No. 1A	Consolidated Revenue Fund, Statement of Revenue and Expenditure for the year ended 30th June, 1950	15
No. 1B	Statement of Reforestation Expenditure for the year ended 30th June, 1950	15
No. 1C	Statement of Afforestation Expenditure for the year ended 30th June, 1950	16
No. 2A	Exports of Timber, Tanning Substances, Sandalwood and Essential Oils during the year ended 30th June, 1950	16
No. 2B	Imports of Timber, Tanning Substances and Essential Oils during the year ended 30th June, 1950	18
No. 2C	Summary of Exports of Forest Produce since 1836	20
No. 2D	Summary of Imports of Timber, Tanning Materials and Essential Oils since 1848	21
No. 3	Timber Industry Regulation Act, 1926-46—Annual Report, 1949	22
No 4	Departmental Publications	22

APPENDIX 1A.

CONSOLIDATED REVENUE FUND.

Dr.	<u> </u>						enditure for the year ended 30th June, 1950. CR
· .				£		s. d.	£ s. d.
	Log Royalty	••••	••••	161,339		11	By Salaries 41,352 15 9
	Sleeper Royalty	••••		16,911		4	" Incidentals 6,559 15 2
	Sawn Timber Royalty	••••		4,325	3	6	" Timber Industry Regulations (Inci-
	Miscellaneous Royalties			11,594	19	8	dental) 517 10 1
,,	Goldfields Revenue		•	10,742	5	0	" Pine Conversion 11,449 6 2
,,	Rent	••••		1,523	3	2	" Direct Conversion 48,988 6 0
,,	Sandalwood Revenue	••••		42,246	19	11	
**	Inspection Fees		4	3,267	2	4	Total C.R.F. Expenditure 108,867 13 2
,,	Miscellaneous Sales			5,446	16	10	" Excess of Revenue over Expenditure 210.072 10 11
••	Sales of Pine Timber			19.877	0	5	,,
	Sales of Firewood	••••	••••	38,687			
••	Miscellaneous Receipts		••••	2,977			
,,			-				• '
				£318,940	4	1	£318,940 4 1
				2020,010	-	-	£318,940 4 1

APPENDIX 1B.

						_							-					
ľo	Division 1—	£	s. d.	£	s.	d.	Bv	Forest	a l	mn	rovem	ent 1	Refor	estat	ion	£	8.	. d.
٠	Administration Busselton	575 84	$\begin{array}{cc} 6 & 6 \\ 12 & 10 \end{array}$		0 16		•	Fun Forest	.d— .s]	Gen Impi	eral A rovem	ent]	t Refore	 estat	 ion	218,437	4	0
,,	Division 2— Administration Mundaring	684 11,111	11 0 5 0				,,	Comm Cash	oun: onw Orde	t realti ers (h Aid		ls Gr	ant	••••	8,033 25,154		9
,	Division 3— Administration Dwellingup	3,115 38,039		11,795				1950)	·••	••••	••••	•••	•		4,066	15	2
,	Division 4— Administration Collie	2,033 15,303		41,155	•				٠									
•	Division 5— Administration Kirup	1,492 34,531		17,337														
•	Division 6— Administration Manjimup	3,577 29,839		36,023		,					•							•
	Division 7— Denmark	849	19 4	33,416 849		4												
•	Division 10— Administration Yarloop-Mornington	597 17,700		18,298	3	8												
•	Division 11— Administration Pemberton	1,502 26,443		27,945	13	7												
	Total, Divisional Expenditure		ę	187,482	10	0												
	Training of Staff Research and Investigati Preparation of Working	on		1,150 2,278 3,905	8 14 11	2 1 6												
	Salaries and Allowances General Equipment and General Sylviculture, Ab			8,124- 7,158 56	10	6 8 1			٠									
	Motor Vehicle Depreciati Radio			4,000 2,844 4,796	0 2 1	0 0 6												
		 •	,	1,835- 4,073		0 8												
	Plant—Purchase Pay Roll Tax			15,919 3,441 591-	18	0												
	Purchase of Vehicles from	n Depreci	ation 	8,033	5	9								•				

APPENDIX 1C.

Statement of A	Afforestation	Expenditure	for	year	ended	30th	June,	1950.
----------------	---------------	-------------	-----	------	-------	------	-------	-------

								Ci
		£	s.	d.	£	s.	d.	£ s. d.
_								By General Loan Fund 112,607 6 5
ation		1,153	0	6				, Cash Orders Outstanding 989 13 5
	••••	9,041		4				
••••								
****	••••	2,953	18	2				
	-				25,350	19	1	
					• • • • •		_	
		••••			3,322	17	8	
					0.000	10	^	·
		••••			3,932	19	9	
					207	19	4	
	••••	•			201	14		
					5.414	10	2	
	•	••••			0,111	10		
		2.682	Q	4				
								ì
••••					25,394	1	1	1
					,			
	dub	5,596	0	10				1
	T							1
	_				5,736	5	9	
					•			1
n					286	6	9	
					16,127	5	10	
ting—								
	ogin				7,837	18	7	
					19,985	13	10	
					*			
					113,596			£113,596 19 10
		ration	ration 1,153 9,041 12,202 2,953 2,953	ration 1,153 0 9,041 2 12,202 18 2,953 18 2,953 18	ration 1,153 0 6 9,041 2 4 12,202 18 1 2,953 18 2	ration 1,153 0 6 9,041 2 4 12,202 18 1 2,953 18 2 25,350 3,322 3,932 207 3,932 207 5,414 1,276 12 10 17,347 1 10 169 9 9 169 9 9 169 9 9 25,394 140 4 11 286 1,276 286 286 1,276 286 1,276 140 4 11 286 1,276 286 1,276 286 1,276 286 1,276 286 1,276 286 1,276 286 1,276 286 1,276 286 1,276 286 1,276 286 1,276 286 1,276 3,918 3,918 25,394 25,394 26,394 3,918 3,91	ration 1,153 0 6 9,041 2 4 12,202 18 1 2,953 18 2	ration 1,153 0 6 9,041 2 4 12,202 18 1 2,953 18 2 25,350 19 1 3,322 17 8 3,932 19 9 207 12 4 2682 8 4 5,414 19 2 ration 2,682 8 4 1,276 12 10 17,347 1 10 169 9 9 169 9 9 169 9 9 25,394 1 1 169 9 9 286 6 9 16,127 5 10 101 161

APPENDIX 2A.

WESTERN AUSTRALIA.

* Exports of Timber, Tanning Substances, Sandalwood and Essential Oils during the year ended 30th June, 1950.

Stat. Item No.	Item and Country of Destination.	Quantity.	Value.	Stat. Item No.	Item and Country of Destination.	Quantity.	Value.
6301- 6309	Wicker, Bamboo and Cane and all Manufac- tures of N.E.I.— Commonwealth States:		£	6451- 6489	TIMBER—continued. Undressed, N.E.I.—Beams, Baulks, Joists and Other Sawn Timber, N.E.I. (except Boards and Planks less than 2 in. in thick- ness)—Hardwood.		£
	New South Wales 100 Victoria 142 Northern Territory 9		251		Commonwealth States: Cub. ft. £ New South Wales 1,750 478 Victoria 273,270 78,382 South Australia 974,334 269,811 Northern Territory 3,707 1,299	Cub. ft.	240.070
6402	TIMBER. Railway Sleepers—Hewn or Sawn— Commonwealth States: Cub. ft. £ Victoria 34,543 9,405 South Australia 467,652 122,614 Ceylon	Cub. ft. 502,195 35,244 29,188 160,242 83,771	132,019 17,622 15,011 82,858 42,087		United Kingdom Ceylon	321,920 27,165 960 33,104 228 198 219 22,495 10,032 9,924 1,082 4,697	349,970 160,290 11,091 404 12,476 105 79 646 14,047 5,898 4,302 627 2,310
		810,640	289,597			1,882,887	641,166
6404	Palings— Commonwealth State:	No. 65,734	1,434	6511- 6549 6551-	Undressed, N.E.I.—Boards and Planks, Sawn, less than 2 in. in Thickness—Softwood—Commonwealth State: South Australia	1,143	218
6409	Sandalwood—			6589	Undressed, N.E.I.—Boards and Planks, Sawn, less than 2 in. in Thickness—Hardwood—Commonwealth States: Cub. ft. £ New South Wales 300 92		
0408	Ceylon Hong Kong Malaya, Federation of Singapore	Cwt. 300 800 1,690 1,080 20	3,570 9,820 19,863 12,058 235		New South Wates 300 92 15,340 20 15,340 20 20 20 20 20 20 20	154,675 33	39,828 15
		3,890	45,546	ŀ		154,708	39,843
				<u> </u>		<u> </u>	

^{*} Exports to Commonwealth States are of Western Australian Origin and Overseas Exports are of Australian Origin,

APPENDIX 2A-continued.

WESTERN AUSTRALIA.

* Exports of Timber, Tanning Substances, Sandalwood and Essential Oils during the year ended 30th June, 1950—continued.

Stat. Item No.	Item and Country of Destination.	Quantity.	Value.	Stat. Item No.	Item and Country of Destination.	Quantity	. Value.
6599	TIMBER—continued. Timber, Undressed, N.E.I.— Commonwealth States: New South Wales		£ 10		WOOD MANUFACTURES—continued. Furniture—continued. United Kingdom		£ 625
6605	Plywood—Veneered or Otherwise—Commonwealth States:				Singapore		511 136 10
	Sq. ft. £ New South Wales 68,636 1,755 South Australia 25,036 1,402	Sq. ft.			Total Wood Manufactures		13,525
	Christmas Island Singapore	93,672, 100 2,125	3,157 33 250		Total Wicker, Timber and Wood Manufactures		1,061,472
6627-	Staves—Undressed, Dressed or Partly	95,897	3,440		ESSENTIAL OILS.		
6628	Dressed—Commonwealth States: No. £ New South Wales 95,260 10,847	No.		8221	Eucalyptus— Commonwealth States: Ib. £	1b.	
	Victoria 18,850 2,324 South Australia 39,120 5,361	153,230	18,532		New South Wales 20,494 1,366 Victoria 4,340 310 United Kingdom	24,834 4,668	1,676 559
6630	Timber, Cut to Size for Making Boxes—		, i		Uganda Protectorate Hong Kong South Africa, Union of	112 112 11,827	28 28 1,044
	Commonwealth States : Cub. ft. £ New South Wales	Cub. ft.		8231	Patchouli— United Kingdom	41,553	3,335
		1,915	1,484	8234	Sandalwood—	1,120	4,340
6641	Timber, Tongued or Grooved or Tongued and Grooved; Weatherboards— Commonwealth States: South Australia	1,283	336	·	Commonwealth States: Ib. £	3,870	0.001
	Christmas Island	5,370 6,653	1,849 2,185		United Kingdom Hong Kong Malaya, Federation of	7,728 784 14	9,681 15,470 1,975
6648	Timber Bent or Cut into Shape, Dressed or Partly Dressed, N.E.I.— Commonwealth States:				Singapore South Africa, Union of Brazil Philippines Republic Siam (Thailand)	200 400 882 50 200	572 1,062 2,030 125 512
	New South Wales 1,725 South Australia 2,516		4,241	2000	West Africa (Spanish)	14,562	32,547
	Total Timber Exports		1,047,696	8239	Essential Oils—Other—Commonwealth States: New South Wales 15,074 16,099		
	WOOD MANUFACTURES.				Victoria 11,572 13,311 Queensland 33 72 South Australia 120 214 Tasmania 5 7		
6655	Casks and Vats, Empty— Commonwealth States: No. £	No.			United Kingdom	26,804 1,232 400	29,703 3,101 200
	New South Wales 806 4,386 Victoria 3 14 South Australia 56 242 Tasmania 17 99				Kenya Uganda Protectorate Hong Kong India, Dominion of	28 6 15 3,616 1,344	29 9 10 3,218 756
	United Kingdom	882 69 951	4,741 301 5,042		Malaya, Federation of	28 641 400	100 352 850
6663	Incubators; Foster Mothers and Brooders— Borneo, British	1	22		Total Essential Oils	34,514	38,328 78,550
6679	Articles of Wood (except Furniture,) N.E.I.— Commonwealth States:				TANNING SUBSTANCES.	i	
	New South Wales			1600	Tanning Bark— Commonwealth State: Victoria	ewt. 9,057	8,243
	United Kingdom Christmas Island Malaya, Federation of Belgium		3,394 12 85 16 38	1610	Tanning Extracts— (Information not available for publication).		
6690			3,555	1000			
0000	Furniture— Commonwealth States: New South Wales 2348			1620	Other Tanning Substances— Commonwealth States: New South Wales		61
	Victoria 1,606 South Australia 243 Tasmania 31 Northern Territory 1,396				Total Tanning Substances (excluding Tanning Extracts)		8,304
	1,000	••••	3,624		Total Value of Exports shown on this Return		£1,148,326

^{*} Exports to Commonwealth States are of Western Australian Origin and Oversea Exports are of Australian Origin.

WESTERN AUSTRALIA.

APPENDIX 2B.

Imports of Timber, Tanning Substances and Essential Oils during the year ended 30th June, 1950.

Stat. Item No.	Item and Country of Origin	Quantity.	Value.	Stat. Item No.	Item and Country of Origin	Quantity.	Value.
6301-	Wicker, Bamboo and Cane, and all Manufac-		£	6605	TIMBER—continued. Plywood, Veneered or Otherwise—	Sq. ft.	£
6309	tures of, N.E.I.— £ Commonwealth States: £ New South Wales 552 Victoria 53 South Australia 468		1,074		Commonwealth States: Sq. ft. £ New South Wales 216,360 7,191 Victoria 114,830 4,446 Queensland 2,783,828 85,051 South Australa 10,643 1,088		
	United Kingdom Borneo, British		83 415 1,827		United Kingdom	3,125,661 1,896	97,726 212
	Hong Kong India, Dominion of		297 8,486 2,361 60 1,698	6613- 6614	Laths for Blinds and Laths, N.E.I.— Commonwealth State: Queensland	3,127,557	97,938
	France Indonesia		1,002		Queensland		
	The course		17,334	6615	Picture Frame Mouldings— Commonwealth State: Victoria		166
6311- 6389	TIMBER. Logs not Sawn (including merely Hewn or Squared with the Axe)—Softwood and Hardwood— Borneo, British	Cub. ft. 70,224	17,439	6616	Architraves, Skirtings and Room Mouldings— Commonwealth States: New South Wales 790		
6407	Undressed, N.E.I.—Hickory— United States of America	849	1,466		Victoria 1,600		2,390
6411- 6449	Undressed, N.E.I.—Sofwood Beams, Baulks, Joists and Other Sawn Timber, N.E.I. (ex- cept Boards and Planks less than 2 in. in Thickness)——Commonwealth States:			6631- 6639	Timber Cut to Size for Making Boxes— Malaya, Federation of Netherlands	Cub. ft. 930 214 5,915 96,406	321 516 2,937 46,673
	Cub. ft. ± New South Wales 2,041 1,116 Queensland 680 674				÷	103,465	50,447
	South Australia 9,849 8,172 Canada Sweden United States of America	12,570 10,672 1,595 8,359	9,962 8,980 609 8,233	6641	Timber, Tongued or Grooved or Tongued and Grooved Weatherboards— Norway	9,022	4,501 15,303
٠.		33,196	27,784			42,154	19,804
6451- 6489	Undressed, N.E.I.—Hardwood Beams. Baulks Joists and Other Sawn Timber N.E.I. (ex- cept Boards and Planks less than 2 in. in Thickness)— Commonwealth States:			6648	Timber Bent or Cut into Shape, Dressed of Partly Dressed, N.E.I.— Commonwealth State: New South Wales		242
	Cub. ft. £ Queensland 15,878 8,325 Tasmania 3,490 1,756		10,081	6649	Timber Dressed or Moulded, N.E.I.— Siam (Thailand)	. 150	170
	Borneo, British Malaya, Federation of	19,368 1,551 1,007	559 541		Total Timber		297,377
6511- 6549	Undressed, N.E.I.—Softwood Boards and Planks, less than 2 in. in Thickness—Commonwealth States: Cub. ft. £ Queensland 13,766 7,709		11,181	6653	WOOD MANUFACTURES. Brushmakers' Woodware and Turnery— Commonwealth States: £ New South Wales 1,14 Victoria 96 Queensland 22	2 9	
	South Australia 833 1,025 Tasmania 10,784 3,802 Borneo, British Sweden	25,383 1,729	12,536 615 1,817	-	South Australia 6 Tasmania 31		2,511
	Director in the same and	32,188	14,968	6655- 6656	Casks and Vats— Commonwealth States: No. £	No.	
6551 - 6589	Commonwealth States: Cub. ft. £					3 0 9 8	
	New South Wales 76 25 Queensland 26,369 14,710 Tasmania 12,536 4,926 Borneo, British Malaya, Federation of	38,981 - 38,981 - 24,522	19,660 9,676 4,355	1	40 - 10 - C A - 4 - V	4,194 678 4,872	23,919 1,820 25,739
	Malaya, Federation of	71,740		-1	Clothes Pegs— Commonwealth States:		
6601	Veneers— Commonwealth States: Sq. ft. £ New South Wales 309,210 12,49 Victoria 30,525 1,37	1			New South Wales 23,528 4,53	02 1 4	
	Queensland 481,794 5,269 Finland	9 - 821,529				70,984 3,750 3,750	429
		832,297	19,404			78,484	15,44

^{*} Produce of Australia, previously exported, now returned to this State.

WESTERN AUSTRALIA.

APPENDIX 2B-continued.

Imports of Timber, Tanning Substances and Essential Oils during the year ended 30th June, 1950—continued.

Stat. Item No.	Item and Country of Origin.	Quantity.	Value.	Stat. Item No.	Item and Country of Origin.	Quantity.	Value.
2021	WOOD MANUFACTURES—continued.	No.	£		WOOD MANUFACTURES—continued. Wood Manufactures N. E. I.—continued.		£
6661	Doors of Wood, including Fly Doors— Commonwealth States:				United Kingdom Papua		9,137 1
	Victoria No. £				Canada		59 4
	Queensland 3,464 6,167 South Australia 2 6			İ	Malaya, Federation of		1
		3,475	6,209		Belgium	••••	374 5,068
6663	Immibations Western Mathematical Duradiens				China France		1 3
	Incubators, Foster Mothers and Brooders— Commonwealth States:				Italy		74 394
	New South Wales 113 1,726				Norway	•••	260
	South Australia 7				United States of America	****	793 44
		113	1,733				54,780
6671-	Tool Handles—				Total Wood Manufactures		207,104
6674	Commonwealth States: £ New South Wales 16,900	·			Total Wicker, Timber and Wood		
	Victoria 5,438 Queensland 460				Manufactures		521,815
	South Australia 2,235						
			27,083	8211-	Essential Oils, Natural, Non-Spirituous-		
	United Kingdom Norway		6,208 38	8239	Commonwealth States: £ New South Wales 15,143		
	United States of America		641		Victoria 6,256		
			33,970		Queensland 34 South Australia 537		
6691-	Furniture-				United Kingdom		21,970 27 •
6699	Commonwealth States: £ New South Wales 9,485				Ceylon		590
	Victoria 23,577				India Dominion of		17 897 1,540
	South Australia 24,326				France		173 1.475
	United Kingdom		57,785 3,797		Italy	••••	1,921
	Canada		1		Indonesia		11 2
	Hong Kong India, Dominion of		554 12		Turkey United States of America		13 5,578
	Malaya, Federation of New Zealand		174 20				
	Singapore		497	l			51,197
	South Africa, Union of *Commonwealth of Australia		2				
	China Denmark		287 222	1601- 1609	Tanning Bark— Commonwealth State:	Christ	
	France		6 38		South Australia	Cwt.	7
	Netherlands		1		South Africa, Union of	200	227
•	Sweden		2,752 500			201	234
	United States of America		64	161i-	Manusina Tudan da		
			66,713	1611-	Tanning Extracts— Commonwealth States:		
6665,	Wood Manufactures, N.E.I.—				New South Wales 123 253		
6666, 6667,	Wood Manufactures, N.E.I.— Commonwealth States: £ New South Wales 10,319				Victoria 12 60		
6675,	Victoria 24.325				South Africa, Union of	135 10,216	$\frac{313}{24,376}$
6676, 6678,	Queensland 976 South Australia 2,825				[·	10,351	24,689
	The amounts dor			1	i i	-0,001	41×,000
6679, 6679A	Tasmania 105 Northern Territory 17	1			Total Value of Imports shown on		-

APPENDIX 2C.

SUMMARY OF EXPORTS OF FOREST PRODUCE SINCE 1836.

Y	ear.		Timl	oer.	Sandal- wood.	Year.	Timbe	er.	Wood Manu- factures.	Sandal- wood.	Tanning Bark.	Essential Oils.
			Cub. ft.	Value.	Value.		Cub. ft.	Value.	Value.	Value.	Value.	Value.
1836a			10,000	£ 2,500	£	1891	1,273,950	£ 89,179	£	£ 37,600	£	£
1837					(1892	1,082,650	78,419		42,870	• ••••	••••
1838 1839						1893 1894	512,950 1,063,700	33,888 74,804		32,160 23,430		
1840						1895	1,255,250	88,146		30,863	••••	
		- 1				1896	1,545,600	116,420		65,800 49,480	•	••••
$1841 \\ 1842$					••••	1897 1898	2,393,300 4,086,150	192,451 326,195		31,812		
1843				••••		1899	6,913,550	553,198		29,719		
1844			ь	163		1900	5,725,400	458,461		39,038	••••	
1845	••••	••••	2,550	255	40 320	1901	7,150,600	572,354		73,931		
1846 1847			12,200	1,120	4,444	1901	6,256,750	500,533		61,771		
1848	••••		3,350	333	13,353	1903	7,748,450	619,705		37,913	859	
1849						1904	8,072,300	654,949		25,417	32,876	••••
1850		••••	10,500	1,048		1905 1906	8,709,500 c 8,830,700	689,943 708,993		38,817 70,958	$154,087 \\ 140,720$	
1851			1,250	268	1,593	1906	c 6,409,550	511,923		65,999	98,773	
1852		••••	7,050	806		1908	c 9,869,500	813,591		76,668	79,934	••••
1853	••••		52,200	5,220		1909	c 10,830,450	867,419		37,456	59,633	
1854	•	•	58,500	7,023		1910	c 12,074,100	972,698		70,775	93,733	
1855 1856	•	. ****	76,900 70,500	$12,076 \\ 9,671$		· 1911	c 12,449,500	986,341	l	65,506	83,470	
1857			69,200	9,449	2,624	1912	c 11,297,100	903,396		27.533	49,094	
1858			29,250	2,340	7,455	1913	c 13,619,850	1,089,481		47,589	47,377	
1859	••••		67,250	6,051	17,259	1914d	c 6,279,750	502,153		39,800 78,926	18,197 6,127	5 381
1860		••••	54,800	4,932	16,360	1915e 1916e	c 9,968,500 5,432,100	808,392 441,991		61,381	10,208	1,102
1861	••••		27,750	2,497	24,945	1910e 1917e	3.890,650	310,893		72,669	18,959	2,060
1862			68,800	7,151	21,541	1918e	3,436,250 4,135,750	274,141		81,834	16.886	3,995
1863		••••	32,900	2,963	25,265	1919e	4,135,750	332,584	11,535	117,072	18,875	3,987
1864	••••	•	58,300	5,508 15,693	24,520 13,490	1920e	5,065,300	465,731	21,935	240,579	22,121	3,704
1865 1866			183,950 85,650	6,849	23,722	1921e	9,816,250	1,137,819	24,916	181,801	23,073	10,107
1867			56,750	4,541	18,442	1922e	8,309,750	1.041.047	22,248	54,769	13,328	6,878
1868			8,000	638	26,045	1923e	7,911,310	997,454	12,377	102,912	21,161	20,075
1869	••••	••••	179,900	14,273	32,998	1924e 1925e	11,126,861 11,844,303	1,367,517 1,477,997	11,505 13,928	348,713 186,775	29,606 40,136	39,877 42,057
1870			157,200	17,551	48,890	1925e 1926e	12,001,384	1,522,958	10.072	238,203	15,056	47,819
1871			218,500	15,304	26,926	1927e	12,580,262	1,651,149	8,727	199,754	15,818	26,454
1872			37,000	2,590 4,771	31,536	1928e	10,384,784	1,265,383	7,783	147,426	27,662	39,131
1873		••••	68,150	4,771	62,916	1929e	7,635,237	960,435	6,603	225,208	35,850 40,628	63,307 77,510
1874 1875	• ••••	••••	345,600 342,350	24,192 23,965	70,572 66,465	1930e	6,579,743	807,425	4,687	22,228	40,028	11,510
1875		••••	219,050	23,743	65,772	1931e	4,127,856	507,382	26,615	43,790	35,333	56,170
1877	••••		336,150	36,979	31,851	1932e	3.062,673	507,382 361,700	85,488	40,546	42,016	59,301
1878	••••		580,900	63,902 69,742	35,064	1933e	2,235,540	262,617	80,332	88,846	33,352 20,904	26,331 26,720
1879	••••		627,250	69,742 66,252	35,001 51,970	1934e 1935e	4,060,830 5,326,117	487,248 636,466	76,107 65,494	75,424 66,474	20,904 15,284	35,363
1880		••••	662,550	00,202	51,970	1935e 1936e	5,598,180	679,522	50,665	44,916	12,237	27,526
1881			792,750	79,277	77,165	1937e	5,673,903	699,684	52,338	75,670	14,491	38,185
1882		••••	936,500	93,650	96.050	1938e	7,545,744	932,420	47,934	22,884	13,865	35,128
1883	•	. ****	997,000 861,700	79,760 68,936	56,250 20,960	1939e 1940e	5,704,250 5,049,585	722,310 634,859	43,518 62,796	34,571 41,596	17,842 19,485	25,550 47,736
1884 1885	••••		848,150	67,850	36,216	19400	0,040,000	002,009	· ·	21,000		
1886			626,150	50,092	27,450	1941e	6,091,187	790,876	74,935	47,613	13,686	598,67
1887		••••	354,800	28,384	34,533	1942e	5,224,634	700,474	64,454	17,481	6,896	74,904
1888	••••	••••	525,750	42,060	33,525	1943e	3,516,566 3,645,354	605,327 613,994	32,426 25,324	80	1,598 1,294	70,253 72,704
1889 1890	••••	••••	788,500 1,172,200	63,080 82,052	57,465 51,355	1944e 1945e	2,851,475	570,028	27,307		2,795	103,055
1090		•	1,1,2,2,00	02,002	01,000	1946e	3,373,025	722,061	f 2,616	7,584	4,872	128,050
			1	1	1	1947e	3,458,628	865,255	f 13,118	100,616	12,056	151,768
				1		1948e	3,584,405	1,099,073	f 6,572 f 6,639	35,571 35,635	9,556 5,112	116,465 75,395
]		l .	1949e 1950c	3,198,212 2,857,946	993,152 974,493	f 13,525	45,546	8,243	78,550
			1		i	TOTAL	384,480,844	42,253,997	1,014,699	5,600,246	1,505,164	1,697,470

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. f Excludes Casks (principally empty returns) previously included in this Item.

APPENDIX 2D. SUMMARY OF IMPORTS OF TIMBER, TANNING MATERIALS AND ESSENTIAL OILS, SINCE 1848.

7	Year.		Timber, Woodware, etc.	Tanning Materials.	Essential Oils.	Year.	Timber, Woodware, etc.	Tanning Materials.	Essential Oils.
			£	£	£		£	£	£
1848	••••		464		,	1899	45,689		••••
1849	••••		••••	••••		1900	56,266	1,416	1,105
1850	·	•	189			1901	80,134	1,740	1,546
1851	••••		3,216			1902	97,810	3,418	1,751
1852	••••	••	2,479	····		1903	102,383	3,556	1,348
1853	****	· •••• ,	790			1904	157,856	1,322	2,122
1854		• ••••	831	•		1905	98,494	582	1,592
1855	•	••••	1,464		. ••••	1906	95,229	1,412	1,915
1856	•	••••	1,124			1907	122,016	2,767	1,549
1857	••••	••••	774	••••	••••	1908	93,205	2,392	4,584
1858	••••		1,528	••••	••••	1909	90,502	4,129	4,003
1859 1860	••••	••••	690		••••	1910	171,280	3,531	3,686
1861	••,••	••••	2,095	••••	• ••	1911	152,133	2,912	4,938
1862	••••	••••	1,459		••••	1912	167,244	3,089	4,598
1863	••••	••••	1,920 1,568			1913	202,640	2,651	5,392
1864	••••	••••	894		****	1914	78,736	629	2,823
1865	••••	••••	548			1914–15	107,763	2,082	4,988
1866	••••	••••	1,442			1915–16	76,849	3,313	4,788
1867		••••	1,727			1916–17 1917–18	75,681	2,848	3,484
1868		••••	1,451			1010 10	58,305	2,020	4,358
1869		••••	1,408	•		1010 00	62,824	1,181	4,168
1870			1,518	7		1000 01	100,083 171,654	3,748	10,043
1871			736			1001 00	92,448	*4,899	6,106
1872			1.660			1000 00	109,428	5,865 6,991	6,577 4.033
1873	••••		1,008			1000 07	133,893	2,790	3,301
1874	••••		1,774		ļ	1004 05	161.898	2,790 2,670	3,301 4,429
1875	••••	••••	2,707			700× 00	144,989	5,826	4,449
1876			3,098			1925–26 1926–27	162,193	8,971	4,254
1877	••••		2,036			1927–28	183,196	9,648	6,955
1878	••••		2,947			1928-29	241,601	6,894	4,413
1879	••••	••••	2,340			1929-30	197,532	10,825	3,980
1880	••••		3,061			1930–31	76,533	4,145	3,160
1881	••••	••••	3,639			1931–32	164,496	4,705	3,505
1882	•		3,692			1932–33	197,916	4,903	3,421
1883	••••	••••	6,667			1933–34	183,944	4,310	3,888
1884	•	••••	2,930			1934–35	211,056	4,076	5,040
1885	****	••••	11,479			1935–36	228,451	5,401	3,921
1886	••••		17,888			1936–37	257,164	5,267	4,810
1887	••••	••	8,136			1937–38	270,126	4,777	6,560
1888	••••	••••	4,461			1938–39	254,315	3,974	7,014
1889	••••	••••	7,686		1	1939-40	259,399	6,802	23,027
1890	••••	••••	14,979	ļ 		1940-41	249,111	3,798	32,399
1891	••••	••••	18,406			1941–42	283,611	15,846	33,828
1892	••••	••••	26,713			1942–43	163,480	6,250	47,718
1893	••••	••••	14,493			1943-44	149,928	7,883	68,871
1894	••••	••••	17,964			1944–45	148,838	9,264	75,449
1895	••••	••••	47,128			1945-46	†219,466	19,573	56,295
1896	••••	•	5,381			1946–47	386,465	12,395	78,091
1897 1898	••••	•	164,552			1947-48	345,508	8,019	96,769
1099	••••	••••	55,566		i	1948–49	570,755	8,662	42,926
						1949–50	521,815	24,923	51,197
						Total	9,517,037	281,090	771,167

^{*} This and subsequent years include tanning extracts, not previously recorded.
† This and subsequent years include values for furniture, bamboo, cane, etc., not previously included.

APPENDIX 3.

TIMBER INDUSTRY REGULATION ACT, 1926-46.

Annual Report for Year ended 31st December, 1949.

The number of mills registered under the provisions of the Act at the close of the year totalled 235 (115 Crown Lands, 120 Private Property).

The average number of persons employed on timber holdings each month throughout the year was 3,859 compared with 3,629 last year.

The District and Workmen's Inspectors made 598 inspections of Timber holdings and investigated and reported on 545 notifiable accidents, of which eight were fatal.

The number of accidents per 100 persons employed was 14.1 compared with 15.7 for last year.

The total period of incapacity as a result of accidents was 12,251 days, an average of 22.4 days per injured person (compared with 22.6 days last year).

Returns as listed hereunder have been prepared, but are not included in this report.

- Number of notifiable accidents reported in accordance with Section 14 of the Act, according to months, and
 indicating the age and nationality of the injured person, the period of incapacity, and the number of cases
 on which the first aid outfit was used.
- 2. The number of accidents reported during 1949, and their classification according to location and nature of injury.
- 3. The number of accidents classified according to cause of accident and location of injury.
- 4. The number of accidents classified according to cause of accident and nature of injury.
- 5. The number of accidents classified according to the months and days of the week, on which the accident occurred.
- 6. The number of hours worked on the day and up to the time of injury by the person injured.
- 7. A return showing by months the time at which the notifiable accidents occurred.
- 8. A return showing the personal cause of accidents as determined by the Inspectors.

T. N. STOATE, Controlling Officer.

APPENDIX 4.

DEPARTMENTAL PUBLICATIONS.

Publication of Papers for the 1949 Australian Forestry Conference.

- "Nutrition of the Pine"-T. N. Stoate (In course of Printing).
- "Fire Control in W.A."—A. J. Milesi.
- "Forest Fire Weather"-W. R. Wallace.
- "Forests of the Drier Areas of W.A."-G. E. Brockway.
- "Grading Rules"-L. N. Weston.
- "Pinus Pinaster in W.A."—D. H. Perry.
- "Radio Communication in W.A. Forests"—C. A. Pinkus.
- "Some Notes on Coastal Sand Drift Fixation in W.A."-D. H. Perry and L. N. Weston.
- "Stocktaking in the Jarrah Forest."-P. Barrett.
- "The Karri Forest"-D. W. R. Stewart.

Other Publications.

"Trees for the Wheat Belt." This was published by the Department of Agriculture after preparation by G. E. Brockway.

Revisions.

The Foresters' Manual, Part 1, was revised by G. W. Nunn. Pamphlets 1, 2 and 3 were issued.

The Hamel catalogue was revised to include plants available from Kalgoorlie.

The Primer of Forestry is in course of revision for the Department of Education by G. W. Nunn.