

1947.

WESTERN AUSTRALIA.

REPORT

on the operations of

THE FORESTS DEPARTMENT

for the

YEAR ENDED 30th JUNE, 1947

by

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CONSERVATOR OF FORESTS

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1947.

Annual Report on the Operations of the Forests Department for the Year ended 30th June, 1947.

INTRODUCTION.

This 1946-47 Annual Report is important from an historical standpoint, in that it is now 50 years since the first Annual Report of a Conservator of Forests was submitted in Western Australia in 1897. The late Mr. J. Ednie Brown was the first Conservator of Forests. For this reason an historical section has been included in this report.

During the year ended 30th June, 1947, the Timber Industry has continued at only partial capacity, though it has shown a gradual, but slight, increase in output and reached about three-quarters production towards the end of the year. Shortage of manpower has been the limiting factor. The State requirements in timber have largely been met, although of course a shortage exists. After setting aside 25 per cent. for South Australia and Victoria, whose timber needs were serious, a token export was permitted to maintain in part the important overseas markets upon which the Western Australian timber trade has always depended.

Production of sawn timber during the year amounted to 9,963,982 cubic feet, valued at £2,067,000. In 1938 the corresponding volume was 14,250,000 cubic feet.

No developmental works in extension of fire control, forest management and silviculture were undertaken, and attention was concentrated upon fire control of forests already under protection, and the incidental works such as road, track, fireline, and telephone line maintenance connected with it.

The year 1933 saw the first serious attempt at inaugurating a programme of comprehensive and organised experimental research on the scientific lines followed in other countries where silvicultural research has received due attention. Published works show the past results of the small research branch of the Department. Owing to loss of staff, the work has almost come to a standstill, but plans have been made for its revival, and this year an arrangement was made with the Commonwealth Forestry Bureau to co-operate in research here and assist to man the laboratory now under construction in the Jarrah Forest at Dwellingup.

The Department continued to supply firewood during the year under review. A number of woodyards, however, reported that they were unable to obtain supplies from outside sources or even to obtain their own firewood cutters. The absence of "Alien" and "P.O.W." labour makes it difficult for the Department to keep up supplies to these woodyards, particularly in view of its firewood commitments for the Pumping Stations, hospitals, and institutions and other Government Departments, and it will be unable to do so when the existing stocks are exhausted.

The extension of fire control over large areas of forest in the extreme South-West at present unprotected is of vital importance to our future timber supplies, and this protection will be possible only by the development of a substantial track programme followed by the establishment of key lookout towers connected with a telephone network.

During the year under review, the Department was fortunate in securing a great deal of surplus radio equipment from the Services, particularly the Navy and Air Force. Results with these sets were particularly satisfactory in the Jarrah forest. From the trials last summer it is confidently expected that radio communication will have a most important bearing on Fire Control. The old bugbear of the Forester of not being able to communicate with or receive a progress report from a fire gang will then be a thing of the past.

Additional A.R.P. fire fighting pumpers were obtained during the year and if further similar plant can be added, a well equipped organisation for fighting fires can be built up. The units so far obtained have amply demonstrated their worth. Portable units with tanks of 600 gallon capacity form the basis of the system developed, but light trucks with a small gang equipped with pack sprays for a quick attack and heavy pumpers operating from streams with long lines of hose are important auxiliary equipment.

The 1946-47 fire season was significant for two other reasons; the extremely small loss in closely protected forest, only 0.03 per cent., and the small number of fires requiring attention.

The raising of trees for planting in the drier regions and the Eastern Wheatbelt and Goldfields has always been a difficulty at the Hamel Nursery in the South-West. The indigenous species of the dry inland country have not been grown successfully at Hamel and reliance has had to be placed in the past on the South Australian and Victorian Sugar Gum (*Eucalyptus cladocalyx*). During the past year, a small experimental nursery was established in Kalgoorlie and a number of flowering eucalypts and timber trees of the Goldfields were raised. The success of this undertaking and the demand for the trees necessitate an expansion of the project.

HISTORICAL REVIEW, 1829-1947.

1829-1839.

Reports of the valuable hardwood forests existing in Western Australia influenced the decision of the British Government to establish a settlement at the Swan River and timber was probably the State's first export, it being recorded that a certain amount of sawn timber was exported in 1831 through James Henty. This timber was pit sawn, as no sawmill then existed, but pit sawyers and woodyards were operating at that time in and around Perth. The British Admiralty were early interested in our timber, as satisfactory repairs to H.M.S. Success at Fremantle in 1830 brought an order for 200 loads for H.M. Dockyards.

1840-1850.

This early interest in timber getting resulted in the Lands Department assuming control of cutting and the issue of licenses to cut and export under an Act gazetted in 1843. A pair of pit sawyers operated under a monthly license but timber for export was cut under a yearly license, the cutting area being not less than one square mile and the license fee £20 per square mile per annum.

After several abortive attempts at erecting sawmills—machinery for this purpose had actually arrived in the "Lotus" in 1829—the first steam driven mill was built at Guildford in 1844 by a Mr. Cowan, assisted by a Mr. Monger. By this time, settlement had pushed through the Darling Ranges and the sandalwood trade commenced in 1845 with the first export to the Far East of four tons. About the following year, the name "Jarrah" was adopted in place of mahogany to avoid confusion with the true mahogany of commerce. The following ten years saw considerable interest being taken in the development of the timber trade, several attempts being made to form local companies in Perth and at the Vasse to export our product, but without much success. In 1847, the Government of the day issued the first regulations to control the pulling and export of Sandalwood and to prevent the danger from bushfires.

1851-1889.

In 1858, the first mill of any size was built at Quindalup near the Vasse by Mr. Harry Yelverton, a concession being granted him by the Government. Within six years the yearly export value of Jarrah and Karri had risen to £15,693. A comparative boom developed and in the decade to follow, concessions were granted at Lockeville, Jarrahdale and Canning; the first locomotive was introduced into the State at Lockeville, and the export value of timber rose to £24,192, a value which more than trebled itself in the next 20 years. As our timbers were becoming well known overseas, the Government decided to encourage export trade and induce development by granting these concessionaires the sole right for a period of years to remove, sell or export the timber on them at a mere nominal rent per annum. This policy, which may have been expedient at the time, reacted to the detriment of the forests and the State in later years. A Royal Commission appointed in 1877 did nothing to rectify the position nor did repeated warnings by Mr. J. Ednie Brown when appointed the first Conservator of Forests in 1896.

1890-1899.

Hitherto forest activities had been administered by the Lands Department, but a separate Department, the Department of Woods and Forests, was created in 1896, with Mr. Ednie Brown as Conservator, acting under the Minister for Lands. Although his administration was of short duration—he died in 1899—many of his recommendations and suggestions bore fruit in later years when the Forests Act became law. During his brief regime, the value of export trade rose from £116,420 to £553,198, with 41 mills operating and employing 2,500 men; minimum girth restrictions in falling were defined; pine planting was initiated; some sandalwood was sown; the Bush Fires Act amended, and a Forests Act recommended.

1900-1915.

A second Royal Commission sat in 1903, and in their findings stated that "State acquiescence in the destruction of good timber only because the trade demands it, is a crime against coming generations; and any attempts to increase the export in the interest of foreign companies, or with the object of inducing more men to join in timber getting at the expense of posterity, needs wise resistance The responsibility of making provision for the reforestation of the 530,000 acres of cutover Jarrah country is important and urgent; the longer it is delayed the more difficult the task Relief can only come by immediate legislation through which measures, means and men may be secured wherewith to cope vigorously and effectively with the vital interests of the vast potentialities which we inherit in our magnificent forests."

Fifteen years passed before these discerning recommendations were given effect in the Forests Act of 1918. In the meanwhile, under the guidance of Mr. C. G. Richardson, the Department had turned its attention to pine planting and plantations were set out at Hamel and Ludlow. In the Land Act of 1904, a permit system of cutting rights was introduced and by 1909, 570,000 acres were held under permit, 31 mills were operating throughout the State, 3,400 men were employed and £500,000 being paid annually in wages. In that year, the export value of timber amounted to £867,419. The boom broke during the war years of 1914-1918, just after the export value had topped the £1,000,000 mark for the first time.

1916-1922.

In 1916, Mr. C. E. Lane-Poole was appointed Conservator to succeed Mr. Richardson and immediately modern scientific principles in management and silviculture were brought into practice. The initial move was a thorough stocktaking of cutover and virgin forest upon which advice and recommendations for the future were based. A serious shortage of prime merchantable forest was disclosed and steps were promptly

taken to conserve, protect, and rehabilitate our timber wealth. The reformation of the Department dates from the passing of the Forests Act in 1918—the first permanent State Forests were dedicated, the first working plans for management drawn up and regeneration measures in the cutover Jarrah forest initiated. Fire control was commenced and a Forests Products Laboratory was set up in Perth to study problems of utilisation, the State contributing to the upkeep. The valuable leadership of Mr. Lane-Poole was, however, only shortlived as he resigned in 1921 after disagreement with the Government on the question of the concessions.

1923-1929.

Mr. Lane-Poole was succeeded by Mr. S. L. Kessell who remained in office for 23 years, years full of active development and vigorous expansion. The provisions of the Forests Act had furnished the Department with its own financial resources, three-fifths of the net revenue of the Department being placed to the credit of the Reforestation Fund each year, and from 1921 to 1929, following another trade boom, gross revenue rose from £75,469 to £228,614. This enabled the programme of management and silviculture to be increased quickly and effectively. Stocktaking of Jarrah and Karri was completed, topographical surveys and mapping of the forest area were undertaken, mallet bark resources were surveyed and sowing commenced, pine plantations, both on coastal sand plain and the heavier soils of the ranges were laid out and working plans for Jarrah and Karri drawn up. Regeneration measures were energetically pursued and fire prevention and control measures expanded. The dedication of State Forests, providing the Department with security of tenure in the forest, was rapid, until in 1929, 2,974,344 acres had been placed under Forests Department jurisdiction. A step vital towards the stabilisation of the timber industry and the management of the forest was taken in 1929 when a general Working Plan for Jarrah was approved providing for a permissible annual cut on a sustained yield basis, a Working Plan for Karri having been previously approved in 1927.

1930-1938.

Progress was so rapid in the restocking of the cutover bush that in 1930, for the first time, the area of regenerated forest exceeded that cut over. With this development of silvicultural work was commenced the provision of housing for workers in the bush, a big road and firebreak building programme, the linking of permanent offices and headquarters and fire towers by telephone, and in general the reawakening and re-settlement of the cutover bush. This received a welcome fillip during the depression years of 1931-33 when large numbers of unemployed were given work in the forest enabling much of the leeway of past years to be overtaken. By 1936, 350,000 acres had received treatment.

Since the establishment of the Forests Products Laboratory at Crawley in 1921 (this unfortunately only lasted a few years, being transferred to Melbourne), the growth of research into problems of utilisation had been steady and much had been achieved in the fields of seasoning, kiln drying, manufacture of paper pulp and tannin extract, establishment of specifications and grading rules, co-operation with Commonwealth authorities being constantly maintained. In 1933 a second side of research, that of inquiry into problems of management, silviculture and nutrition in indigenous forest and plantations of exotics came into prominence, when a comprehensive programme of investigations entailing extensive field trials with statistical analyses of results was entered upon. Completed investigations have been published periodically and the results achieved materially affected principles and practice in all fields of forest operations.

1939-1944.

Of necessity the outbreak of war in 1939 called a halt to continued active development. Problems of manpower and the diversion of work to channels with a direct bearing on war time economy reduced the normal expansion of all work to bare maintenance and protection. Commonwealth control of timber production and output was instituted in 1941, with Mr. S. L. Kessell as Controller and a branch staffed by departmental officers opened in Western Australia in 1942. In April, 1943, Mr. Shedley, Assistant Conservator, was appointed Deputy Controller of Timber for Western Australia. Serious shortage of labour in the timber industry and the disruption of markets reduced the log output from 40,333,654 cubic feet in 1939 to 26,279,568 cubic feet in 1945. Regeneration operations in the indigenous forest and pine planting activities were reduced to the barest minimum, a skeleton field staff concentrating on fire protection and maintenance of utilities, helped by Civil Alien Corps and Army personnel. Women assisted in such jobs as controlled burning and manning lookout towers. It fell to the lot of the Department to maintain firewood supplies for the Metropolitan market and public utilities and to contribute to numerous undertakings involving the use of readily accessible mobile labour.

1945-1947.

Disorganised national economy following the cessation of hostilities in 1945 found the Department with depleted funds owing to low wartime revenue, with a big leeway in works programme to overtake and little hope of return to normality for some years to come. Mr. Kessell resigned to enter commercial life in 1945 and was succeeded by Mr. T. N. Stoate. However, progress has already been made towards a return to routine development. A new Working Plan for Jarrah, Karri, and Wandoo was approved in 1945 and a special plan for sleeper sawmilling drawn up, hewing being now practically a thing of the past. Fire prevention and control has received special attention in the matter of organisation and modernised equipment, power pumping units being incorporated and radio communication established.

CHRONOLOGICAL TABLE OF EVENTS.

- 1829—Founding of State.
- 1831—First export of timber.
- 1836—200 loads of timber valued at £2,500 exported.
- 1843—First Act and Regulations governing timber-getting gazetted.
- 1844—First sawmill erected at Guildford.
- 1845—First export of Sandalwood—4 tons.
- 1847—First Regulations controlling Sandalwood-getting gazetted.
First Bush Fires Act gazetted.
Sandalwood road from Bunbury to Williams opened up.
- 1848—Timber Company formed in Perth.
- 1849—Timber Company formed at Vasse.
- 1855—Timber exports valued at £12,076.
- 1858—First big sawmill operated at Quindalup.
- 1865—Export value of Jarrah and Karri amounted to £15,693.
- 1870—Six sawmills now operating.
First locomotive used by Ballarat Timber Company at Lockeville.
- 1874—Jarrahdale and Canning concessions granted.
Jarrah and Karri included by Lloyds in "A" class shipbuilding timbers.
Export value of Jarrah and Karri, £24,192.
- 1877—First Royal Commission appointed.
- 1882—Karridale concession granted.
Special timber licenses granted under Land Act.
- 1892—Export Timber Branding Act gazetted.
- 1896—Formation of Department of Woods and Forests with Mr. Ednie Brown as Conservator.
Commencement of Pine planting and sowing of Sandalwood.
- 1899—Death of Mr. Ednie Brown and appointment of Mr. C. G. Richardson.
- 1900—Inspection of export sleepers sought by foreign buyers.
- 1903—Second Royal Commission appointed.
- 1904—Land Act, 1904, proclaimed—permit system introduced.
- 1908—Pine planting at Ludlow commenced.
- 1910—First attempt at regeneration of Jarrah at Waroona.
- 1913—Sleeper hewing restricted to cutover bush.
- 1915—Timber slump during European War.
- 1916—Mr. Lane-Poole appointed Conservator.
- 1917—Permit system introduced in hewing.
- 1918—Forests Act, 1918, proclaimed.
First State Forest dedicated—Tuart.
- 1919—First Working Plan drawn up.
First Jarrah State Forest proclaimed.
First Empire Forestry Conference held in London.
First fire tower built.
Full cubic measurement of logs introduced.
Full scale regeneration measures in Jarrah commenced.
- 1921—Resignation of Mr. Lane-Poole.
Forest Products Laboratory established in Perth.
- 1922—Stocktaking of Jarrah Forest completed.
Third Royal Commission appointed.
- 1923—Area of merchantable forest determined.
Appointment of Mr. S. L. Kessell as Conservator.
- 1924—Topographical survey of forest area undertaken.
Survey of Mallet Bark resources carried out and Mallet sown.
- 1927—Approximately 700,000 acres now under Working Plan.
238,000 acres of Sandalwood country classified.
Working plan for Karri approved.
- 1928—Revenue £228,614.
First Forest Settlement built at Inglehope.
Empire Forestry Conference held in Australia.
- 1929—General Jarrah Working Plan approved.
2,974,344 acres now dedicated State Forest.
- 1930—Annual area of indigenous forest regenerated exceeded area cutover for first time.
- 1932—Marketing of Sandalwood stabilised.
- 1933—Programme of research in silviculture and management commenced.
- 1934—First mobile fire fighting unit, using water, in operation.
- 1936—Portable mills, to cut sleepers only, introduced.
- 1937—Factories established to extract tannin from Wandoo.
- 1938—Uniform system of control in firewood and mining timber in Goldfields introduced.
- 1939—General Working Plan for Jarrah revised.
- 1941—Timber control imposed.
- 1942—Manpower restrictions operating in timber industry.
Management and silviculture reduced to maintenance basis.

CHRONOLOGICAL TABLE OF EVENTS—*continued.*

- 1944—First Plywood factory opened.
 First Departmental sawmill to operate on departmental Pine Plantation built.
- 1945—General Jarrah, Karri, and Wandoo (working plan) approved.
 Working Plan for Jarrah and Wandoo (sleepers) approved.
 Resignation of Mr. Kessell.
- 1946—Mr. T. N. Stoate appointed Conservator.
 Timber control ceased.
- 1947—Fifth Empire Forestry Conference held in London.

THE FOREST AREA.

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

The total area of State Forest as at 30th June, 1947, was 3,398,013 acres, which is an increase of 2,427 acres compared with the area as at 30th June, 1946. During the year additions totalling 2,677 acres were made to State Forest, whilst 250 acres were excised with the approval of Parliament and reverted to the Lands Department principally to be made available for selection.

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

Seven Reserves were created totalling 11,051 acres and one revoked with an area of 29 acres during the year under review. The area of reserves increased by 11,022 acres to a total of 1,789,133 acres.

REVENUE.

The gross revenue of the Department for the year ended 30th June, 1947, was £302,789 as compared with £244,408 for the previous year.

Royalties on forest produce and rents totalled £142,756, an increase of £11,268 on last year's figure of £131,488. In addition, revenue from Sandalwood amounted to £93,686 as a result of the recovery of the Far Eastern Market, together with the continued local demand for oil distillation purposes.

Inspection Fees decreased by £152, to £2,503, whilst sales of pine timber showed an increase of £2,236 to £11,892. Receipts in respect of firewood supplied to Metropolitan woodyards, Government Departments, Water Supply Pumping Stations, etc., totalled £47,016.

REBATES OF INSPECTION FEES.

The rebate of 25 per cent. on inspection fees on all Sawn Timber, including sleepers for export, was continued and amounted to £915 7s.

SAWMILLING AND HEWING.

The production of sawn timber during the year increased to approximately 10 million cubic feet (8.8 million cubic feet in 1945-46). From a log intake during the year of 29,780,502 cubic feet, the recovery in sawn and hewn timber was 9,963,982 cubic feet. The shortage of labour, particularly fallers, is still the chief factor preventing a return to normal conditions in the industry.

8,277 cubic feet of hewn timber were produced as compared with 14,041 cubic feet for the previous year.

Departmental plantations again supplied the bulk of the pine timber and of a total quantity of 355,712 cubic feet produced within the State, 232,171 cubic feet came from this source.

The demand for sawn Marri (red gum) principally for case making continued and the production figure was 198,267 cubic feet in the round.

The intake of peeler logs for veneer and plywood manufacture was 112,241 cubic feet. The principal species used were Karri (94,749 cubic feet); Pine (16,821 cubic feet); Jarrah (671 cubic feet).

The number of men employed in the sawmilling industry as at 30th June, 1947, was 3,290 against an average of 3,110 for the year ended 31st December, 1946.

TIMBER PRODUCTION.

Production of Timber for Year ended 30th June, 1947 (exclusive of Mining timber, Firewood, Piles and Poles).

	MILL LOGS.					HEWN TIMBER.				GRAND TOTALS.	
	Jarrah.	Karri.	Other.	Total.		Jarrah in sq.	Wandoo in sq.	Total.		In Log	In Square.
				In Log.	Recovery of Sawn Timber.			In Log.	In Square.		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	cub. ft.	cub. ft.	cub. ft.	cub. ft.	cub. ft.	cub. ft.	cub. ft.	cub. ft.	cub. ft.	cub. ft.	cub. ft.
Crown Lands	16,531,577	4,739,778	662,488	21,933,843	7,297,662	2,942	.....	14,710	2,942	21,948,553	7,300,604
Private property	5,973,126	922,534	909,614	7,805,274	2,658,043	3,969	1,366	26,675	5,335	7,831,949	2,663,378
GRAND TOTALS	22,504,703	5,662,312	*1,572,102	29,739,117	9,955,705	6,911	1,366	41,385	8,277	29,780,502	9,963,982

Figures in columns (1), (2), (3), (4), (8) and (10), are in the round based on full volume measures.

Figures in columns (5), (6), (7), (9) and (11), are the volumes of sawn or hewn timber measured in the square.

*Comprises.—510,527 cubic feet Wandoo; 380,770 cubic feet Blackbutt; 355,712 cubic feet Pine; 198,267 cubic feet Marri; 72,149 cubic feet Sheoak; 26,234 cubic feet River Banksia; 16,754 cubic feet Morrell; 6,556 cubic feet Tuart; 3,801 cubic feet Yate; 1,179 cubic feet Bullich; 153 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 :—

Year.	From Crown Lands.			From Private Property.			Total Quantity.	Estimated value of Timber obtained.
	Sawn Timber other than sleepers.	Sawn sleepers.	Hewn sleepers.	Sawn timber other than sleepers.	Sawn sleepers.	Hewn sleepers.		
	cub. ft.	cub. ft.	cub. ft.	cub. ft.	cub. ft.	cub. ft.	cub. ft.	£
1945-46 ...	5,399,843	1,673,512	*5,293	1,507,103.	289,314	8,823	8,883,888	1,700,000
1946-47 ...	5,826,972	1,470,690	†2,942	2,224,187	433,856	5,335	9,963,982	2,067,000

*Includes 156 cubic feet Other Hewn Timber.

†Includes 565 cubic feet Other Hewn Timber.

TIMBER INSPECTION:

Sawn and hewn sleepers inspected throughout the year amounted to 1,655,682 cubic feet, while sawn timber other than sleepers submitted for inspection, totalled 117,255 cubic feet.

The number of piles and poles inspected was 3,556, amounting to 101,581 lineal feet.

TIMBER CONTROL AND PLANNING.

As outlined in the 1945-46 report, activities in co-operation with the Forestry and Timber Bureau and sawmillers in determining six-monthly production and distribution programmes have been continued.

Special emphasis has been placed on the provision of adequate supplies for an expanding housing programme within the State. As a timber producing State with a surplus of hardwood beyond local requirements, Western Australia is able to assist other States with regard to sleeper requirements and timber for housing and an effort is being made to hold established overseas markets. Timber being made available for less essential requirements of the local market, has been cut to a minimum. About 60% of production is retained for requirements within the State and with provision for other essential timber requirements, this is considered to be ample for a 3,000 house per annum programme.

A fair measure of success can be claimed with regard to planning and actual distribution of timber supplies in this State bearing in mind recognised limitations of authority, results being due largely to excellent co-operation of major sawmilling firms. This does not suggest freedom from complaints on inability to secure sufficient timber on the local market from time to time, but, by and large, the position can be considered as satisfactory.

CASES AND CRATES.

The case position, particularly with regard to cases for fresh fruit, continued difficult and it was considered necessary to import large quantities to cover possible requirements for the 1947 apple crop. Actual imports totalled 530,000 cases, but, due to changing programme of fruit export to the United Kingdom, about 300,000 cases will be carried forward against requirements for 1948.

All cases imported from overseas, were at prices more than double those ruling on the local market and it has been increasingly clear that no appreciable stepping-up of local case production could be expected within the existing framework of case prices. Substantial increases in case prices have been granted by the Deputy Commissioner of Prices, but even with this factor operating and a substantial carryover of cases towards next year's apple crop, difficulty will be found in securing sufficient cases to market the whole of the fruit crops in 1947-48.

FIREWOOD PRODUCTION

The estimated total consumption of firewood for the year was 675,000 tons, made up as follows :

	tons
Metropolitan Area.....	210,000
Goldfields Area	228,000
Goldfields Water Supply Pumping Station	41,000
Mill waste used for fuel at bush saw mills	133,000
Country Centres	63,000
Total	<u>675,000</u>

The principal sources of supply from Crown Lands were :		tons.
Goldfields Licenses and Permits	.....	246,082
Mill waste ex bush saw mills	.....	178,640
Firewood Permits (South West)	}	118,207
Mill waste ex Sleeper and Case Mills		
Supplied by Forests Dept. ex Alien, P.O.W., and by cutters for Nos. 1 and 2 Pumps	.....	46,157

Throughout the year the Department continued to supply firewood to a number of Metropolitan Woodyards, but deliveries were restricted owing to the shortage of Railway trucks. Fortunately when the Railway truck position was most acute, stocks of wood were still available for direct carting by road from Jarrahdale and the Department managed to keep the Woodyards going, although all orders could not be fulfilled. Jarrahdale stocks were practically exhausted when the Railway truck position eased about the end of May. Since then, increased supplies of firewood have been forwarded to the Goldfields Water Supply Pumping Stations at Mundaring Weir and Cunderdin in an effort to build up the reserve stacks. These reserves were practically exhausted last summer as the cutters employed were unable to supply sufficient firewood to meet burning requirements. Efforts to obtain additional cutters were without avail and the Department was fortunate in being able to draw on the reserve stacks at the Pumps and from stocks available in the bush at other centres.

The quantity of firewood supplied by the Department during the year was 46,157 tons, made up as follows :

	tons
For domestic use (Metropolitan Woodyards)	16,396
Hospitals and Institutions	4,303
Government Departments, etc. (including Nos. 1, 2 and 3 Pumps)	8,961
Industrial Concerns	3,744
Piecework firewood cutters for Nos. 1 and 2 Pumps	12,753
Total	46,157

This figure, as compared with the 62,299 tons supplied for the year ended 30th June, 1946 (which excluded firewood cut by piecework cutters for Nos. 1 and 2 Goldfields Water Supply Pumping Stations), indicates that increased quantities are being delivered by the private suppliers. A number of woodyards, however, reported that they were unable to obtain supplies from outside sources or even to obtain their own firewood cutters. The absence of "Alien" and "P.O.W." labour makes it difficult for the Department to keep up supplies to these woodyards, particularly in view of its firewood commitments for the Pumping Stations, hospitals and institutions and other Government Departments, and it will be unable to do so when the existing stocks are exhausted. Moreover, Departmental gangs will be engaged on essential forest work which was neglected during the war period.

A revised estimate of the stocks of firewood on hand at the end of the year, including stocks at Marrinup purchased from the Army, is 23,000 tons.

On the Goldfields the estimated production of firewood increased by approximately 9,000 tons over that of the previous year, details being as follows :

	tons
Mining firewood	178,233
Supplies to G.W.S. Pumps Nos. 3 to 8	22,132
Supplies to W.A.G.R. Pumps, etc.	1,013
Domestic use, institutions and other industrial concerns	44,704
State Alunite Industry ex private property	4,732
	<u>250,814</u>

SANDALWOOD

During the year orders were placed for 985 tons of Sandalwood for export and 695 tons for oil distillation within the State.

The quantity delivered is set out in the following statement :

	For Oil Distillation	For Export
From Crown Lands	903 tons	758 tons
From Private Property	—	7 tons
Total	<u>903 tons</u>	<u>765 tons</u>

The Sandalwood supplied to oil distillers included 270 tons of roots and butts sawn from the logs pulled for export.

835 tons of Sandalwood were exported during the year.

The quantity of Sandalwood oil produced by local distillers was 42,111 lbs., of which 34,726 lbs. were exported.

OTHER FOREST PRODUCE

Four hundred and ninety thousand, three hundred and forty-three lineal feet of piles and poles were cut during the year. The production of Mallet Bark for tanning purposes was 1,447 tons, and Wandoo logs used in the production of tannin extract amounted to 65,077 tons.

FOREST PRODUCE NOT ELSEWHERE INCLUDED IN PRODUCTION TABLES, OBTAINED DURING YEAR ENDED 30TH JUNE, 1947

Description of Forest Produce	South-West Division and Agricultural Areas	Northern Central and Eastern Goldfields	Total
Mining Timber* Tons ...	12,526	10,471	22,997 Tons
Sleepers for Goldfields Wood Lines Cub. ft....	...	51,134	51,134 Cub. ft.
Firewood Tons ...	118,207	49,389	167,596 Tons
Mill waste sold as Firewood* Tons ...	45,130	...	45,130 Tons
Mining Firewood Tons ...	...	196,693	196,693 Tons
Mill waste used as fuel by Sawmills* Tons ...	133,510	...	133,510 Tons
Charcoal Tons ...	15	398	413 Tons
Blackboy Tons ...	159	...	159 Tons
Piles and Poles* Lin. ft.	490,343	...	490,343 Lin. ft.
Fencing Posts and Rails* No.	112,800	8,540	121,340 No.
Mallet Bark* Tons ...	1,447	...	1,447 Tons
Wandoo Timber for Tanning Extract* Tons ...	65,077	...	65,077 Tons
Boronia megastigma lbs.	328	...	328 lbs.
Bean and Tomato Sticks No. ....	...	1,000	1,000 No.
Stone Cub. Yds.	25,238	...	25,238 Cub. yds.

*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

Field Officers, etc., reported 126 forest offences to Head Office during the year.

In seventeen cases proceedings were taken against the offenders, convictions were recorded and fines and costs amounting to £197 were imposed.

Warnings were issued in 49 cases and the remainder were dealt with by the collection of royalty, forfeiture of deposit, damages or confiscation and sale of timber illegally cut. The amount received by the Department in this way totalled £754.

EXPENDITURE

The expenditure from Consolidated Revenue Fund covering cost of general administration of the Forests Act and Regulations amounted to £29,725. In addition, £1,298 was expended on salaries and incidentals in respect of the Timber Industry Regulations Act.

A total of £48,033 was spent on firewood production and other direct conversion projects, whilst a further £5,000 was provided to cover the cost of conversion of pine timber into a marketable product.

An average number of 279 wages employees was engaged during the year in general forest work and fire control. The timber industry is still affected by shortage of manpower and it was necessary for the Department to continue its assistance to the mills by providing labour for falling, etc.

The net expenditure for the year, from the Trust Fund, on Reforestation and Afforestation was £110,602 7s. 7d.

The statements setting out the transactions on the Reforestation Fund during the year and details of the apportionment of three-fifths net revenue of the Department to the Fund are given hereunder :

Forests Improvement and Reforestation Fund.

	£	s.	d.	£	s.	d.
Balance at 1st July, 1946—						
General A/c.	Dr.	744	0	8		
Motor Vehicle Depreciation A/c.	Cr.	2,146	3	1		
					1,402	2
Three-fifths net revenue transferred					131,392	17
Treasury Grant					30,000	0
Direct Credits (Cottage Rents, etc.)					3,510	7
Expenditure Recoups—						
Federal Aid Roads Grant		9,000	0	0		
Assistance to Sawmills		4,753	14	6		
Pine Conversion Costs		5,000	0	0		
Various		5,534	12	10		
					24,288	7
Transfer to Motor Vehicle Depreciation A/c.					2,000	0
					£192,593	14
						0

Forests Improvement and Reforestation Fund—continued.

<i>Less Expenditure—</i>			
Reforestation and Afforestation	....	....	110,602 7 7
Other expenditure, recouped as above	....	....	24,288 7 4
			134,890 14 11
<i>Balance at 30th June, 1947—</i>			
General A/c.	....	....	53,556 16 0
Motor Vehicle Depreciation A/c.	....	....	4,146 3 1
			£57,702 19 1

Apportionment of Net Revenue of the Department.

	£	s.	d.	£	s.	d.
Gross Revenue for year 1946-47	302,789	7	3
<i>Less Revenue from Firewood, etc. (a)</i>	47,765	18	3
				255,023	9	0
Consolidated Revenue Fund Expenditure	84,056 2 11			
<i>Less Expenditure on Firewood, etc.</i>	48,033 6 6			
			36,022 16 5			
<i>Less Timber Industry Regns.—Salaries</i>	1,297 19 9			
			34,724 16 8			
Salary of Conservator	1,200 0 0			
Audit Fee	100 0 0			
			36,024 16 8			
Net Revenue	£218,998	12	4
Three-fifths net revenue	131,399	2	5
<i>Less amount overcredited in 1945-46</i>	6	5	3
				£131,392	17	2
Amount transferred to credit of Reforestation Fund, 1946-1947	£131,392	17	2

(a) Revenue from Firewood, etc., was understated by an amount of £2,228 16s. 3d., consequently, the Fund was over-credited by three-fifths of that amount, i.e., £1,337 5s. 9d. To be adjusted during year 1947-48.

REFORESTATION.

A survey of the progress made towards bridging the gap in essential reforestation works caused by the war years reveals that the rate of recovery is still slow. During wartime, the works programme was of necessity one of maintenance, only those tracks and firelines vital to adequate fire protection being kept in repair. Last year the mileage of new tracks and firelines cleared was 97—this year shows a slight increase, the figure being 145 miles. This brings the total to date to 11,651 miles, of which some 660 miles only are non-trafficable. The greater portion of this year's development took place in the Manjimup-Pemberton area where large tracts of undeveloped forest await protection. To assist in this, two (2) new fire towers were built in this division. There are now 29 fire lookouts in operation. The construction of new telephone lines amounted to 24 miles. The telephone network, extending from Sawyers Valley in the North to South of Pemberton, now covers 1,280 miles.

No new areas of Jarrah or Karri were regenerated; the areas treated remain the same as in 1941, 447,307 acres of Jarrah and 25,537 acres of Karri.

Assessment and classification of cutover bush continued, 2,040 chains of temporary assessment lines and 3,786 chains of permanent assessment lines being run during the year. The permanent assessment lines will provide data for a long-term study of the growth and development of all age classes on the cutover bush, yielding valuable information for the future management of the forest.

AFFORESTATION.

Mallet.

In the Narrogin Division the area now sown with Brown Mallet (*Eucalyptus astringens*) is 17,065 acres; 118 acres of established plantation were thinned. Apart from the clearing of 139 acres in preparation for future planting no new works were entered on. Maintenance of roads, tracks, firelines and tending plantations was continued.

Conifers.

The pre-war planting programme of 1,000 acres annually has not yet been resumed. The total area planted in 1946-47 was 115 acres of *Pinus pinaster* (Maritime pine) on coastal sands at Gngangara. This brings the total area now under pine in the State to 12,976 acres. Clear felling was continued at Mundaring Weir where certain areas will be flooded when the weir wall is raised. 27½ acres were so treated during the year under review; 3 acres of old *Pinus radiata* plantation at Hamel was also clear felled.

Thinning of plantations continued at Mundaring Weir, Gnangara and Collier. The total production of felled timber from Departmental plantations was 232,171 cubic feet, of which 16,821 cubic feet was supplied to the Metropolitan Area for manufacture into plywood.

It is interesting to note that at Mundaring Weir in the thinning and clear felling operations in stands of *Pinus radiata*, the following returns per acre of log timber were obtained :—

	Age.	Loads per acre.
Thinnings	21	69
	20	62
Clear felling	21	130
	21	104
	20	111
	20	108

The total of pine log timber has steadily increased since 1937-38, as the following table shows :—

	cub. ft.
1937-38	44,366
1938-39	54,475
1939-40	124,153
1940-41	128,666
1941-42	150,353
1942-43	166,450
1943-44	232,912
1944-45	224,619
1945-46	348,154
1946-47	355,712

RESEARCH AND INVESTIGATION.

Further work was carried out on Pine nutrition and establishment while silvicultural studies in the Jarrah bush were also continued.

Thinning regimes were laid down for plantations and check measurements made from current thinning programmes.

With the slight improvement in the labour situation, management studies in the Jarrah bush have been extended and a regular programme has been drawn up. Cutover bush and tree-marked bush assessment work is progressing.

Data from the Agricultural Department has been dealt with by the Statistical Branch.

Several reports on experimental results are in the process of preparation and publication.

The weather stations at Dwellingup and Pemberton maintained their programme of research and forecasting in co-operation with Divisional Meteorologist.

With the co-operation of the Visual Education Branch, films were made and instructional films were shown.

Progress was made in the interpretation of forest types from air photographs in connection with general assessment of indigenous forest.

On the utilisation side, problems associated with control of timber distribution within the State, on behalf of the State Housing Commission, continue to occupy a large proportion of the Utilisation Officer's time. As a result, with no increase in technical staff available, the wide field for profitable investigation on sawmilling activities and forest products research generally has remained practically untouched.

During the year a comprehensive investigation was carried out by Mr. A. J. Gibson, on behalf of the State Government on charcoal iron proposals at Wundowie, with special reference to the possibility of extension to the South-West. A full report on forest resources available and the probable effect of charcoal iron proposals on the forest and sawmilling industry, was submitted by the Department, following a request by Mr. Gibson for information on these lines.

Continued assistance has been given to the industry and timber users generally on problems of seasoning properties and general utilisation.

FIRE CONTROL.

The 1946-47 fire season was a successful one. Losses were small in number and in size; very favourable controlled burning weather was experienced in spring, and the summer following was comparatively mild.

Fairly heavy winter rains in May, June and July, 1946, preceded a good spring burning season broken in November by unusually heavy rainfall. January and February, 1947, were both dry (62 points below the average at Dwellingup). One of the most dangerous periods of the year was immediately after the opening of the burning season in March, 1947, with 6 days of low humidities and relatively high temperatures.

The average fire hazard for the summer was 5.5, compared with 6.0, 5.5, 6.5, 5.5 and 5.3 for the previous seasons. Two (2) days of "dangerous" hazard were recorded while there were 15 days of "severe summer." 40% of the days were moderate summer or less. No day temperature reached 100°.

A total of 252 fires (356 last year) were attended by fire gangs. Ninety fires occurred in 1,057,835 acres of closely protected Zone A forest and of this 320 acres or 0.03%, were lost, a remarkably low percentage. In Zone B, 827,987 acres in extent, 82 fires were attended while the remaining 80 fires caused no loss of forest.

The number of fires and their various causes are listed below :

W.A.G.R. Locos	30
Mill Locos	41
Bush Workers	9
Mill and Bush Navvy Gang	3
Hunters and Fishers	18
Travellers in the forest	36
Stock owners and leaseholders	4
Private Property	52
Firewood Cutters	1
Lightning	3
Deliberately Lit	5
Escape from Controlled Burning	7
Mill surroundings	5
Mine surroundings	1
Employees of other Government Departments	7
Householders	4
Children	7
Gas Producers	1
Tractors	1
Unknown	17
Total	252

When compared with 1945-46 statistics, this shows a big decrease in fires from locomotives, but a correspondingly big increase in fires from travellers in the bush.

The network of fire towers was increased by the erection of two (2) new towers, bringing the total number of lookouts to 29.

Schools of instruction in fire control technique were held during the year and considerable attention was paid to the training of fire gangs in the handling of modern fire-fighting equipment.

The most important development in fire control during 1946-47 was the introduction, on an experimental basis, of radio communication. Four (4) fixed Radio Telephone Stations were installed to operate in conjunction with mobile sets on fire trucks and tests conducted throughout the season emphasised the following advantages :

- Fire fighting units enabled to work miles from nearest telephone.
- Communications can be made directly from seat of operations.
- Direction and redirection of gangs speeded up.
- Senior field officers in direct communication within radius of 50 miles.
- In case of winter breakdown of telephone lines, radio can be used for Divisional and District communication and organisation.

Despite the varied type of equipment used, it was found that employees generally could be trained in its use with very little practice. This advance will prove one of the greatest boons to fire control yet introduced.

Demonstrations of fire fighting equipment were given at Harvey and Pumphreys' Bridge during Fire Prevention Week.

The assistance given by sawmilling firms in providing additional labour in fire fighting and by the Police Department in the investigation of cases of incendiarism was much appreciated.

ARBORICULTURE

Hamel.

An increased demand for trees was again experienced during the season, which closed on August 31st last, and the number of trees sold was the highest since 1938. All the evidence points to a still heavier demand in 1947.

During the season under review 50,909 trees were distributed and of these 46,113 were disposed of by sale. The balance was supplied to other Departmental centres for experimental and ornamental planting.

Sugar Gum (*Eucalyptus cladocalyx*) headed the list of sales and was closely followed by Monterey Pine (*Pinus radiata*). Other trees in good demand were Victorian Ti-tree (*Leptospermum laevigatum*), Maritime Pine (*P. Pinaster*), Brush Box (*Tristania conferta*), Carob Bean (*Ceratonia siliqua*) and Pepper Tree (*Schinus molle*).

Kalgoorlie.

In view of the necessity for shade trees, shelter belts, etc., throughout the wheat belt, the ensuring of a reliable supply of acclimatised planting stock is of considerable importance to our agricultural areas. The nursery established last year for this purpose at Kalgoorlie produced about 2,000 plants for disposal to local governing bodies and settlers.

ADMINISTRATION

Under the Public Service Act.

The following staff changes were effected during the year :

(a) Professional Division.

Mr. T. N. Stoate, Conservator of Forests, left Perth for London on 1/6/47 in order to attend the Fifth British Empire Forestry Conference.

Mr. B. H. Bednall, Divisional Forest Officer and Acting Assistant Conservator, resigned on 14/1/47 upon his selection as Conservator of Forests, South Australia.

Mr. A. J. Milesi, Divisional Forest Officer, was granted leave of absence to lecture on Fire Control at the Australian Forestry School, Canberra. On 12/12/46 he was appointed Fire Control Officer.

Mr. P. H. Barrett, Assistant Divisional Forest Officer, after lecturing in Engineering at the Australian Forestry School, Canberra, for twelve months, was appointed Research Officer on his return.

Mr. C. D. Hamilton, Assistant Divisional Forest Officer, resigned on 13/5/47 to take up the position of Research Officer at the Commonwealth Forestry and Timber Bureau.

(b) Clerical Division.

1. Permanent Staff.—Mr. H. V. Telfer, who was transferred to the Forests Department from the Mines Department on 22/4/20 and took over the duties of Clerk in Charge of Registration and was gazetted Registrar on 1/7/36, was transferred to the Workers' Homes Board and State Housing Commission as Acting Assistant Secretary on 25/2/47.

Mr. J. O. Aspinall, who had been Assistant to the Clerk in Charge of Registration since 17/6/21 and had been seconded to the Commonwealth Department of Supply and Development in Melbourne on 26/7/41, resigned on 19/9/46 to take up a position with the Commonwealth Forestry and Timber Bureau, Melbourne.

Messrs. W. J. V. Cahill, T. B. Moriarty and W. T. Dixon resumed duty after being discharged from the Armed Forces.

Miss M. Carlson and Miss V. P. Allen, Junior Typists, were promoted to the permanent staff.

2. Temporary Staff.—Minor adjustments were made in the clerical staff of certain branches and the total number employed remained as before.

Under the Forests Act.

A Radio Branch was inaugurated on 6/1/47, and Mr. C. A. Pinkus was appointed as the first Radio Control Officer on 14/3/47.

(c) General Division.

The reclassification of the Field Staff under the Forests Act as at 1/1/46 was gazetted on 18/10/46 and provided for the payment of a special allowance at the rate of £18 per annum to officers with special fire control duties.

Eight officers who had passed promotional examinations prescribed by the Forest Regulations were promoted to higher classes.

Mr. H. Smith, Forester, retired after 27½ years' service, and Mr. C. W. Handmer, Assistant Forester, retired after 12½ years' service.

Three "B" Grade Assistant Foresters were appointed.

I desire to place on record appreciation of the worthy co-operation and loyal support of all members of both field and office staffs during the year.

T. N. STOATE,
Conservator of Forests.

PERTH,

22nd September, 1947.

LIST OF APPENDICES.

	Page
No. 1A. Consolidated Revenue Fund, Statement of Revenue and Expenditure for year ended 30th June, 1947	16
No. 1B. Statement of Afforestation and Reforestation Expenditure for year ended 30th June, 1947	16
No. 2A. Exports of Timber, Tanning Substances, Sandalwood and Essential Oils during the year ended 30th June, 1947	17
No. 2B. Imports of Timber, Tanning Substances and Essential Oils during the year ended 30th June, 1947	19
No. 2C. Summary of Exports of Forest Produce since 1836	21
No. 3. Timber Industry Regulation Act, 1926-1937—Annual Report, 1946	22

APPENDIX 1A.

CONSOLIDATED REVENUE FUND.

Consolidated Statement of Revenue and Expenditure for Year ended 30th June, 1947.

DR.				CR.								
				£	s.	d.	£	s.	d.			
To Log Royalties	107,072	17	2	By Salaries	...	...	27,380	5	9
„ Sleeper Royalties	13,106	11	4	„ Incidentals	...	...	3,172	19	0
„ Sawn Timber Royalties	2,492	5	0	„ Timber Industry Regulations	...	...	469	11	8
„ Miscellaneous Royalties	8,313	3	3	„ Pine Conversion Costs	...	...	5,000	0	0
„ Goldfields Revenue	10,522	5	3	„ Firewood, Nos. 1 and 2 Pumps	...	...	14,717	5	6
„ Rents	1,249	7	6	„ Firewood (other) Logs for milling and casemaking and other Conversion projects	...	...	33,316	1	0
„ Sandalwood Revenue	93,685	10	5						
„ Inspection Fees	2,502	16	9						
„ Miscellaneous Sales	2,495	17	6						
„ Sales of Pine Timber	11,891	16	11						
„ Sales of Firewood	47,016	5	5						
„ Miscellaneous Receipts	2,440	10	9						
				£302,789	7	3				£84,056	2	11
							„ Excess of Revenue over Expenditure	...	...	218,733	4	4
										£302,789	7	3

APPENDIX 1B.

Consolidated Statement of Afforestation and Reforestation Expenditure for Year ended 30th June, 1947.

DR.				CR.								
				£	s.	d.	£	s.	d.			
To Division No. 1	5,248	18	6	By Reforestation Fund	...	...	110,602	7	7
„ Division No. 2	6,305	17	9	„ Federal Aid Roads Grant	...	...	9,000	0	0
„ Division No. 3	17,556	3	1						
„ Division No. 4	10,134	2	10						
„ Division No. 5	11,503	14	3						
„ Division No. 6	11,497	10	3						
„ Division No. 7	7,055	14	3						
„ Division No. 9	7,098	19	6						
„ Division No. 10	13,395	4	0						
„ Division No. 11	6,174	9	9						
Total Divisional Expenditure	95,970	14	2						
„ Training of Staff	62	2	5						
„ Research and Investigation	2,011	17	6						
„ Preparation of Working Plans and Topo. Surveys	1,651	0	9						
„ Salaries and Allowances	6,634	13	9						
„ General Equipment and Incidentals	3,654	10	5						
„ General Silviculture and Arboriculture	326	4	7						
„ Motor Vehicle Depreciation	2,000	0	0						
„ Purchase of Fire Equipment	1,960	15	7						
„ Purchase of Land	546	2	6						
„ Purchase of Tractors, etc.	2,598	4	1						
„ Pay Roll Tax unallocated	845	12	9						
„ Cash Orders unallocated	1,340	9	1						
				23,631	13	5						
				£119,602	7	7				£119,602	7	7

ERRATA

ANNUAL REPORT 1946 - 1947 - APPENDIX 2A.

The Government Statistician advises that sections of this table should read as follows :-

TIMBER

Logs not sawn (including merely hewn or squared with the axe) -

		Cub.ft.	£
Commonwealth States			
South Australia		1,164	196
Undressed N.E.I. @ Beams, Baulks, Joists and Other Sawm Timber N.E.I. (except Boards and Planks less than 2" in thickness) - Hardwood -			
Commonwealth States:			
	Cub.ft.	£	
N.S.W.	429	96	
Vic.	402,772	76,205	
S.A.	1,042,794	191,138	
		1,445,995	266,439
United Kingdom		512,603	192,944
Ceylon		15,834	7,591
Cocos Island		82	12
Mauritius		30,923	10,148
New Zealand		51,207	14,344
Union of South Africa		116,997	39,495
Belgium		16,058	6,002
Christmas Island		1,143	300
		2,190,842	537,275
			965,268
Total Timber Exports			

Perth
14.9.48

APPENDIX 2A.

Exports of Timber, Tanning Substances and Essential Oils during the year ended 30th June, 1947.

Item and Country of Destination	Quantity	Value	Item and Country of Destination	Quantity	Value
<i>Wicker, Bamboo and Cane and All Manufactures thereof—</i> Commonwealth States : New South Wales .....	.....	22	<i>Timber, Tongued and or Grooved : Weatherboards—</i> Commonwealth States : S.A.	cub. ft. 301	£ 45
TIMBER <i>Logs not sawn (including merely hewn or squared with the axe)—</i> Commonwealth States : South Australia	cub. ft. 1,164	196	<i>Timber bent or cut into shape, Dressed or Partly Dressed, N.E.I.—</i> Commonwealth States : N.S.W.	£ 2	
United Kingdom	54,444	21,615	Vic.	391	
Christmas Island	1,143	300	S.A.	104	497
New Zealand	537	153			497
Union of South Africa	4,963	1,804	<i>Timber Dressed or Moulded, N.E.I.—</i> Commonwealth States : Northern Territory....	30	19
	62,251	24,068	Total Timber Exports		965,871
<i>Railway Sleepers, hewn or sawn—</i> Commonwealth States : c. ft. £ Vic. 1,332 270			WOOD MANUFACTURES <i>Incubators : Foster Mothers and Brooders</i> Malaya, British	No. 3	512
S.A. 528,389 106,325			<i>Articles of Wood (except Furniture) N.E.I.</i> Commonwealth States : N.S.W.		
United Kingdom	529,721	106,595	Vic.	2,132	
Christmas Island	16,200	4,683	Vic.	1,243	
Malaya, British	407	95	Q'land.	100	
Mauritius	160,415	90,617	S.A.	885	
New Zealand	53,734	17,876	Tas.	31	
Union of South Africa	36,192	9,536	Northern Territory....	6	
	51,190	16,725			4,397
	847,859	246,127	Ceylon		12
<i>Sandalwood—</i> Burma	cwt. 100	1,300	Christmas Island		56
Ceylon	410	1,430	India		607
Hong Kong	9,296	60,686	Union of South Africa		850
India	500	1,500	Netherlands Indies		620
Malaya, British	1,400	12,200			6,542
China	5,000	23,500	<i>Furniture—</i> Commonwealth States : N.S.W.		
	16,706	100,616	Vic.	169	
<i>Undressed N.E.I.—Beams, Baulks, Joists and Other Sawn Timber N.E.I. (except Boards and Planks less than 2" in thickness—Hardwood—</i> Commonwealth States : Cub. ft. £ N.S.W. 429 96			Vic.	55	
Vic. 402,772 76,205			S.A.	18	
S.A. 1,042,794 190,138	cub. ft. 1,445,995	266,439	North Terr.	391	
United Kingdom	458,339	171,932	United Kingdom		633
Ceylon	15,834	7,591	Ceylon		1,794
Cocos Island	82	12	Christmas Island		87
Mauritius	30,923	10,148	India		523
New Zealand	50,670	14,191	New Zealand		2,527
Union of South Africa	112,034	37,691			500
Belgium	16,058	6,002	Total Wood Manufactures		13,118
	2,129,935	514,006	Total Wicker, Timber and Wood Manufactures		979,011
<i>Undressed N.E.I. Boards and Planks Sawn, less than 2" in thickness—Hardwood—</i> Commonwealth States : Cub. ft. £ Vic. 118,620 21,515			<i>Tanning Bark—</i> Commonwealth States : N.S.W.	cwt. 408	280
S.A. 284,845 46,707	cub. ft. 403,465	68,222	Vic.	16,523	11,218
Union of South Africa	923	255	Belgium	16,661	11,498
Belgium	13,294	6,655		1,170	558
	417,682	75,132	Total	17,831	12,056
<i>Plywood, Veneered or Otherwise—</i> Commonwealth States : Sq. ft. £ N.S.W. 15,200 1,346			<i>Tanning Extracts—</i> Commonwealth States : N.S.W.	cwt. 16,136	24,527
Vic. 216 5	sq. ft. 15,416	1,351	Vic.	9,645	14,833
			Q'land.	2,625	4,040
<i>Shingles—</i> Ceylon	No. 3,766	1,389	S.A.	1,914	2,900
<i>Staves—Undressed, Dressed or Partly Dressed—</i> Commonwealth States : No. £ N.S.W. 40,506 1,584			New Zealand		30,320
Vic. 10,882 282			Belgium		2,574
Q'land. 6,390 276			Czechoslovakia		705
S.A. 5,998 249			Denmark		1,945
Tas. 400 40			Norway		13,870
	64,176	2,431	Netherlands		6,836
<i>Timber cut to size for making boxes—</i> Commonwealth States : Cub. ft. £ N.S.W. 107 60			Norway....		6,009
S.A. 463 130	cub. ft. 570	190	Portugal		1,143
			Sweden		1,260
			U.S.A.		12,172
			Total	76,834	133,543
			ESSENTIAL OILS <i>Eucalyptus—</i> Commonwealth States : N.S.W.	£ 3,237	
			Vic.	286	
			United Kingdom		3,523
			Malaya, British		185
			Union of South Africa		1,471
			U.S.A.		337
					617
					6,133

APPENDIX 2A—continued.

*Exports of Timber, Tanning Substances and Essential Oils during the Year ended 30th
June, 1947—continued.*

Item and Country of Destination.	Quantity.	Value.	Item and Country of Destination.	Quantity.	Value.
<i>Patchouli—</i>		£	<i>Essential Oils—Other—</i>		£
<i>Sandalwood—</i>			Commonwealth States :		
Commonwealth States :			N.S.W.	20,376	
N.S.W.	5,135		Vic.	27,938	
Vic.	1,912		S.A.	3,733	
S.A.	741		Tas.	17	
United Kingdom		7,788	Hong Kong		52,064
Canada		28,180	India		531
Hong Kong		3,808	Malaya, British		1,516
India		4,092	New Zealand		1,980
Malaya, British		238	Union of South Africa		225
Belgium		9,336	Brazil		978
Brazil		1,190	China		3,524
China		935	Egypt		525
Cuba		1,271	U.S.A.		133
France		95			19,410
Netherlands		5,075			80,886
U.S.A.		1,547			
Philippine Islands		3,085			
		109			
		64,749			
			Total Essential Oils		151,768
			Total value of Exports, shown on this Return		1,276,378

APPENDIX 2B—continued.

Imports of Timber, Tanning Substances and Essential Oils during the Year ended 30th
June, 1947—continued.

Item and Country of Origin.	Quantity.	Value.	Item and Country of Origin.	Quantity.	Value.
<i>Wood Manufactures, N.E.I.</i>		£	ESSENTIAL OILS		£
Commonwealth States :			<i>Natural—Non Spirituous—</i>		
N.S.W.	15,297		Commonwealth States :		£
Victoria	33,771		N.S.W.	25,727	
Queensland	1,834		Victoria	4,394	
South Australia	7,266		South Australia	1,193	
Tasmania	333				
United Kingdom		58,501	United Kingdom		31,314
India		3,541	Ceylon		365
Palestine		11	India		4,604
*Commonwealth of Australia		7	Bahamas		3,645
Sweden		229	Jamaica		1
Switzerland		9	Palestine		728
		5	Windward Is.		70
		62,303	*Commonwealth of Australia		4
Total Wood Manufactures		152,561	China		133
Total Wicker, Timber and Wood Manufactures		386,465	France		908
<i>Tanning Bark—</i>			Madagascar		199
Union of South Africa	cwt. 1,200	720	Netherlands		22,779
<i>Tanning Extracts—</i>			Netherlands East Indies		8
Commonwealth States :			Spain		5,531
Victoria	578	1,558	United States of America		978
Union of South Africa	7,801	10,117			6,824
	8,379	11,675	Total Essential Oils		78,091
			Total Value of Imports shown on this Return		476,951

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

APPENDIX 2C.

Summary of Exports of Forest Produce Since 1836.

Year.	Timber.		Sandalwood.		Year.	Timber.		Wood	Sandalwood.		Tanning	Essential	Tanning
	Cub. ft.	Value.	Tons.	Value.		Value.	Tons.	Value.	Manu- factures.	Value.	Value.	Value.	Value.
1836 ^a	10,000	£ 2,500	.....	£ .....	1891	1,273,950	89,179	.....	3,760	£ 37,600	.....	.....	.....
1837 .....	.....	.....	.....	.....	1892	1,082,650	78,419	.....	5,716	42,870	.....	.....	.....
1838 .....	.....	.....	.....	.....	1893	512,950	33,888	.....	3,893	32,160	.....	.....	.....
1839 .....	.....	.....	.....	.....	1894	1,063,700	74,804	.....	2,784	23,480	.....	.....	.....
1840 .....	.....	.....	.....	.....	1895	1,255,250	88,146	.....	3,851	30,863	.....	.....	.....
1841 .....	.....	.....	.....	.....	1896	1,545,600	116,420	.....	6,848	65,800	.....	.....	.....
1842 .....	.....	.....	.....	.....	1897	2,393,300	192,451	.....	5,852	49,480	.....	.....	.....
1843 .....	.....	.....	.....	.....	1898	4,086,150	326,195	.....	4,349	31,812	.....	.....	.....
1844	b	163	.....	.....	1899	6,913,550	553,198	.....	4,084	29,719	.....	.....	.....
1845 .....	.....	.....	4	400	1900	5,725,400	458,461	.....	5,095	39,088	.....	.....	.....
1846	2,550	255	82	324	1901	7,150,600	572,354	.....	8,864	73,931	.....	.....	.....
1847	12,200	1,120	370	4,444	1902	6,256,750	500,533	.....	7,995	61,771	.....	.....	.....
1848	3,350	333	1,335	13,353	1903	7,748,450	619,705	.....	4,406	37,913	.....	859	.....
1849 .....	.....	.....	.....	.....	1904	8,072,300	654,949	.....	4,510	25,417	.....	32,876	.....
1850	10,500	1,048	.....	.....	1905	8,709,500	689,943	.....	5,521	38,817	.....	154,087	.....
1851	1,250	268	219	1,593	1906	c 8,830,700	708,993	.....	8,848	70,958	.....	140,720	.....
1852	7,050	806	.....	.....	1907	c 6,409,550	511,923	.....	9,212	65,999	.....	98,773	.....
1853	52,200	5,220	.....	.....	1908	c 9,869,500	813,591	.....	9,564	76,668	.....	79,934	.....
1854	58,500	7,023	.....	.....	1909	c 10,830,450	867,419	.....	4,805	37,456	.....	59,633	.....
1855	76,900	12,076	.....	.....	1910	c 12,074,100	972,698	.....	8,228	70,775	.....	93,733	.....
1856	70,500	9,671	.....	.....	1911	c 12,449,500	986,341	.....	6,907	65,506	.....	83,470	.....
1857	69,200	9,449	280	2,524	1912	c 11,297,100	903,396	.....	3,154	27,533	.....	49,094	.....
1858	29,250	2,340	745	7,455	1913	c 13,619,850	1,089,481	.....	6,260	47,569	.....	47,377	.....
1859	67,250	6,051	1,278	17,259	1914 ^d	c 9,279,750	502,153	.....	4,702	39,800	.....	18,197	.....
1860	54,800	4,932	1,687	16,360	1915 ^e	c 9,968,500	808,392	.....	8,375	78,926	.....	6,127	381
1861	27,750	2,497	2,558	24,945	1916 ^e	5,432,100	441,931	.....	6,271	61,381	.....	10,208	1,102
1862	68,800	7,151	2,393	21,541	1917 ^e	3,390,650	310,393	.....	7,230	72,669	.....	18,959	2,060
1863	32,900	2,963	2,807	25,265	1918 ^e	3,436,250	274,141	.....	6,504	81,834	.....	16,886	3,995
1864	58,800	5,508	2,724	24,520	1919 ^e	4,315,750	332,584	11,535	8,998	117,072	.....	18,875	3,987
1865	183,950	15,693	1,686	13,490	1920 ^e	5,065,300	465,731	21,935	14,355	240,579	22,121	3,704	.....
1866	85,650	6,849	2,965	23,722	1921 ^e	9,816,250	1,137,819	24,916	10,839	181,801	23,073	10,107	.....
1867	56,750	4,541	2,305	18,442	1922 ^e	3,309,750	1,041,047	22,248	3,990	54,789	13,328	6,878	.....
1868	8,000	688	3,256	26,045	1923 ^e	7,911,310	997,454	12,377	7,623	102,912	21,161	20,075	.....
1869	179,900	14,273	4,124	32,998	1924 ^e	11,126,861	1,367,517	11,505	14,081	348,713	29,606	39,877	.....
1870	157,200	17,551	6,112	48,890	1925 ^e	11,844,303	1,477,997	13,928	6,243	186,775	40,136	42,057	.....
1871	218,500	15,304	3,366	26,926	1926 ^e	12,001,384	1,522,958	10,072	7,771	238,203	15,056	47,819	.....
1872	37,000	2,590	3,942	31,536	1927 ^e	12,580,262	1,651,149	8,727	6,821	199,754	15,818	26,454	.....
1873	68,150	4,771	6,292	62,916	1928 ^e	10,384,784	1,265,883	7,783	4,829	147,426	27,662	39,131	.....
1874	345,600	24,192	7,057	70,572	1929 ^e	7,635,237	960,435	6,603	7,582	225,208	35,850	63,307	.....
1875	342,350	23,965	6,646	66,465	1930 ^e	6,579,743	807,425	4,687	943	22,228	40,628	77,510	.....
1876	219,050	23,743	6,577	65,772	1931 ^e	4,127,856	507,382	26,615	1,606	43,790	25,333	56,170	.....
1877	336,150	36,979	4,247	31,851	1932 ^e	3,062,673	361,700	85,488	1,386	40,546	42,016	59,301	.....
1878	580,900	63,902	4,675	35,064	1933 ^e	2,235,540	262,617	80,332	3,068	88,846	33,352	26,331	.....
1879	627,250	69,742	4,667	35,001	1934 ^e	4,060,830	487,248	76,107	2,508	75,424	20,904	26,720	.....
1880	662,550	66,252	5,197	51,970	1935 ^e	5,326,117	636,466	65,494	2,223	66,474	15,284	35,363	.....
1881	792,750	79,277	7,716	77,165	1936 ^e	5,598,180	679,522	50,665	1,592	44,916	12,327	27,526	13,657
1882	936,500	93,650	9,605	96,050	1937 ^e	5,673,903	699,684	52,338	2,513	75,670	14,491	38,185	15,514
1883	997,000	79,760	7,031	56,250	1938 ^e	7,545,744	932,420	47,934	747	22,884	13,865	35,128	53,294
1884	861,700	68,936	2,620	20,960	1939 ^e	5,704,250	722,310	43,518	1,106	34,571	17,842	25,550	48,329
1885	848,150	67,850	4,527	36,216	1940 ^e	5,049,585	634,859	62,796	1,058	41,596	19,485	47,736	69,899
1886	626,150	50,092	3,431	27,450	1941 ^e	6,091,187	790,876	74,935	1,167	47,613	-13,686	59,867	99,445
1887	354,800	28,384	4,317	34,533	1942 ^e	5,224,634	700,474	64,454	400	17,481	6,896	74,904	146,511
1888	525,750	42,060	4,470	33,525	1943 ^e	3,516,566	605,327	32,426	2	80	1,598	70,253	113,324
1889	788,500	63,080	6,385	57,465	1944 ^e	3,645,354	613,994	25,324	.....	.....	1,294	72,704	120,659
1890	1,172,200	82,052	5,136	51,355	1945 ^e	2,851,475	570,028	27,307	.....	.....	2,795	103,055	106,884
					1946 ^e	3,373,025	722,061	7,616	143	7,584	4,872	128,050	111,614
					1947 ^e	3,458,628	865,255	13,118	835	100,616	12,056	151,768	133,543
					Total	374,840,281	39,187,279	987,963	426,801	5,483,494	1,482,253	1,427,060	1,032,673

^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.
* Principally Sandalwood Oil.

APPENDIX 3.

TIMBER INDUSTRY REGULATION ACT, 1926-1937.

Annual Report for the Year ended 31st December, 1946.

The number of mills operating under the provisions of the Act at the close of the year totalled 167. The average number of persons employed on timber holdings throughout the year was 3,110 as compared with 2,876 last year. The District and Workmen's Inspectors made 304 inspections of timber holdings and investigated and reported on 686 notifiable accidents, five of which were fatal.

The number of accidents per 100 persons employed was 22.13. The total period of incapacity as a result of accidents was 15,323 days, an average of 22.3 days per injured person (compared with 24.4 days last year).

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

1. 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 1946, 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.

22nd September, 1947.