

*clerk in charge*

90834

1933.

WESTERN AUSTRALIA.

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# REPORT

ON THE OPERATIONS OF

# The Forests Department

FOR THE

YEAR ENDED 30th JUNE, 1933.

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PERTH:

BY AUTHORITY: FRED. WM. SIMPSON, GOVERNMENT PRINTER.

1933.

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

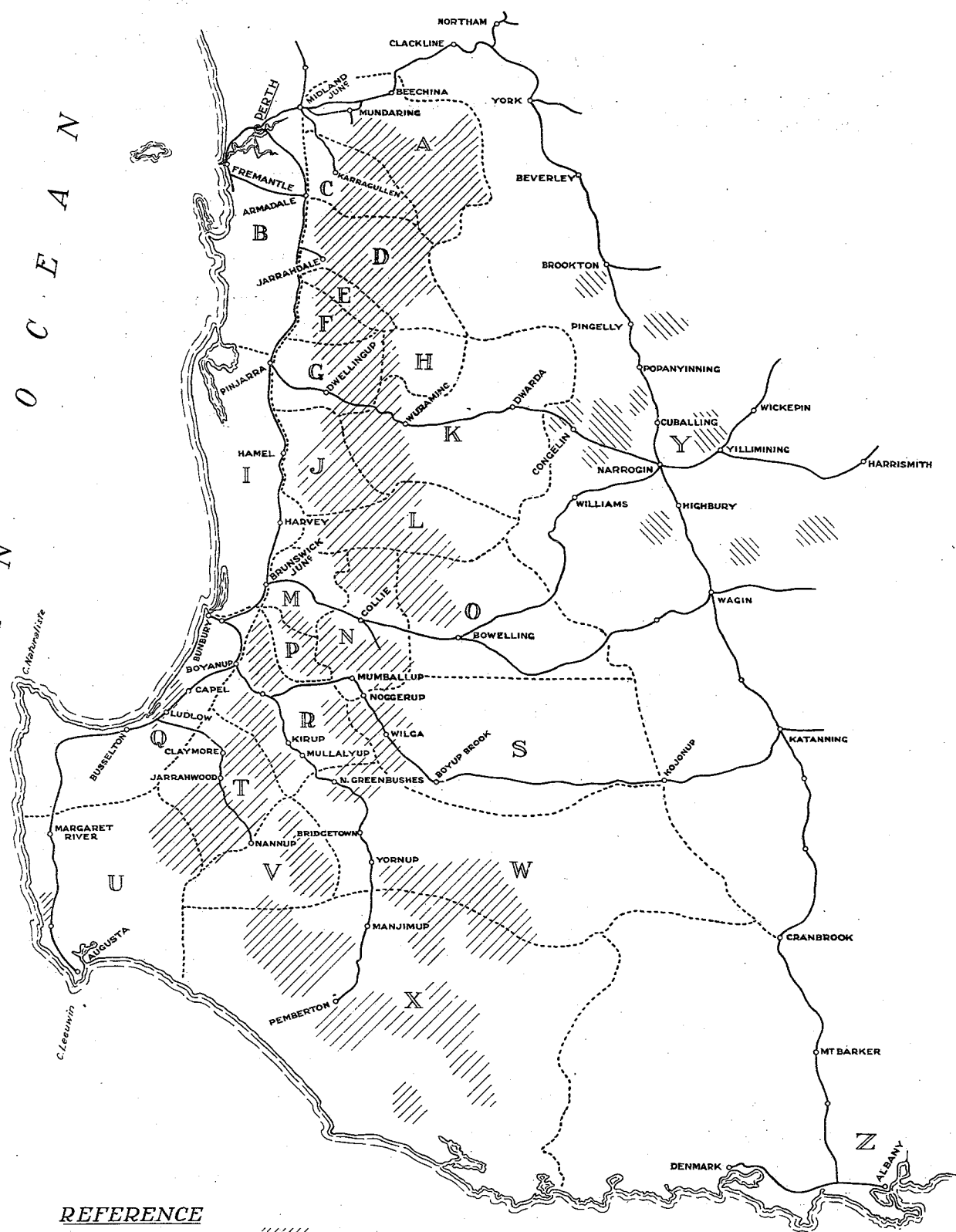
|   |
|---|
| Jarrah ( <i>Eucalyptus marginata</i> ).                   |
| Karri ( <i>Eucalyptus diversicolor</i> ).                 |
| Wandoo ( <i>Eucalyptus redunca</i> , var. <i>elata</i> ). |
| Tuart ( <i>Eucalyptus gomphocephala</i> ).                |
| Marri ( <i>Eucalyptus calophylla</i> ).                   |
| Blackbutt ( <i>Eucalyptus patens</i> ).                   |
| Sandalwood ( <i>Santalum spicatum</i> ).                  |
| Sheoak ( <i>Casuarina Fraseriana</i> ).                   |
| Bullich ( <i>Eucalyptus megacarpa</i> ).                  |
| Banksia ( <i>Banksia verticillata</i> ).                  |
| Brown Mallet ( <i>Eucalyptus astringens</i> ).            |
| Blackboy ( <i>Xanthorrhoea Preissii</i> ).                |
| Beefwood ( <i>Hakea Cunninghamii</i> ).                   |

### KEY TO DISTRICTS AND SUB-DISTRICTS.

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

(See map on opposite page.)

I N D I A N O C E A N



**REFERENCE**

State Forests ——— shown thus   
 Timber Reserves - Mallet " "   
 District Boundaries ——— " "

Forests Department,

Perth, 22nd September, 1933.

*The Honourable Minister for Forests.*

Sir,

I have the honour to transmit herewith my Report on the operations of the Department for the year ended 30th June, 1933.

I have the honour to be,

Sir,

Your obedient servant,

S. L. KESSELL,

Conservator of Forests.

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

One additional reserve (No. 97/25), comprising 132 acres, was declared during the year. The 18 acres decrease in Jarrah Reserves is accounted for by adjustment of area following survey of an area previously excised by description.

|   | June, 1932. | June, 1933. | Increase or Decrease. |
|---|-------------|-------------|-----------------------|
|   | acres.      | acres.      | acres.                |
| Jarrah ... ..                           | 35,934      | 35,916      | — 18                  |
| Other species—                          |             |             |                       |
| Sandalwood ... ..                       | 27,105      | 27,105      | ...                   |
| Pine Planting ... ..                    | 5,521       | 5,521       | ...                   |
| Mining Timber and Firewood, etc. ... .. | 1,361,299   | 1,361,431   | + 132                 |
| Total ... ..                            | 1,429,859   | 1,429,973   | + 114                 |

(3)—*Land Alienation.*

The system of reference, by the Lands Department, of all applications for the purchase or leasing of Crown lands in recognised forest districts to the Forests Department for report before any such land is made available was continued. Two hundred and twenty-two applications were considered, 67 of which were for land within State forests. No objection was raised to the immediate release of 149 of the areas, or 67 per cent. of the total applications. Of the balance, 59 cases were definitely opposed on account of the value of the timber and land for forestry purposes, and 14 were opposed temporarily until arrangements can be made for the removal of the marketable timber from the area concerned.

## CHAPTER II.

## REVENUE.

Although the revenue for the year compares very unfavourably with that of more prosperous times, it is gratifying to note an increase of £8,737 on the previous year's figures, the total collected being £65,875. Of the above increase, sandalwood accounted for £5,207.

The rebates approved by Cabinet in 1931, *i.e.*, 20 per cent. on log timber royalties and 25 per cent. on inspection fees payable on sawn timber were continued during the year, the amount involved being approximately £10,000.

The royalty derived from log timber, *viz.*, £38,103, represents an increase of six per cent. on the previous year's collections, and royalty from sandalwood, which totalled £13,576, represents an increase of 62 per cent.

Inspection fees showed a reduction of 26 per cent., the amount collected being £2,292, compared with £3,096 during the last financial year.

## PRINCIPAL SOURCES OF REVENUE FOR THE PAST TWO YEARS.

| Year.          | Royalties.           |              | Inspection Fees. | Sandalwood. | Firewood and Fence Posts. | Miscellaneous. | Total.   |
|----------------|----------------------|--------------|------------------|-------------|---------------------------|----------------|----------|
|                | Logs for Sawmilling. | Hewn Timber. |                  |             |                           |                |          |
| 1931-32 ... .. | £ 35,820             | £ 2,581      | £ 3,096          | £ 8,369     | £ 1,846                   | £ 5,555        | £ 57,267 |
| 1932-33 ... .. | 38,103               | 1,424        | 2,292            | 13,576      | 3,178                     | 7,302          | 65,875   |

## TIMBER PRODUCTION.

PRODUCTION OF TIMBER FOR YEAR ENDED 30th JUNE, 1933 (EXCLUSIVE OF MINING TIMBER, FIREWOOD AND PILES AND POLES).

| No. of Division. |                      | MILL LOGS. |           |          |            |                          | HEWN TIMBER.          |                       |           |            | Grand Total. |            |
|------------------|----------------------|------------|-----------|----------|------------|--------------------------|-----------------------|-----------------------|-----------|------------|--------------|------------|
|                  |                      | Jarrah.    | Karri.    | Other.   | Total.     |                          | Jarrah.<br>In Square. | Wandoo.<br>In Square. | Total.    |            |              |            |
|                  |                      |            |           |          | In Log.    | Recovery of Sawn Timber. |                       |                       | In Log.   | In Square. | In Log.      | In Square. |
|                  |                      | cub. ft.   | cub. ft.  | cub. ft. | cub. ft.   | cub. ft.                 | cub. ft.              | cub. ft.              | cub. ft.  | cub. ft.   | cub. ft.     | cub. ft.   |
| 1                | Crown Lands ...      | 73,017     | —         | 14,056   | 87,073     | 30,476                   | 40,791                | ...                   | 203,955   | 40,791     | 291,028      | 71,267     |
|                  | Private Property ... | 132,901    | 1,146     | 47,820   | 181,867    | 68,561                   | 62,147                | ...                   | 310,735   | 62,147     | 492,602      | 125,708    |
| 2                | Crown Lands ...      | 24,904     | ...       | ...      | 24,904     | 8,716                    | 2,419                 | ...                   | 12,095    | 2,419      | 36,999       | 11,135     |
|                  | Private Property ... | 150        | ...       | ...      | 150        | 53                       | ...                   | ...                   | ...       | ...        | 150          | 53         |
| 3                | Crown Lands ...      | 4,677,747  | ...       | 2,650    | 4,680,397  | 1,638,139                | 10,924                | ...                   | 54,620    | 10,924     | 4,735,017    | 1,649,063  |
|                  | Private Property ... | ...        | ...       | ...      | ...        | ...                      | 11,649                | ...                   | 58,245    | 11,649     | 58,245       | 11,649     |
| 4                | Crown Lands ...      | 419,084    | ...       | 21,990   | 441,074    | 154,376                  | 52,601                | ...                   | 263,005   | 52,601     | 704,079      | 206,977    |
|                  | Private Property ... | 400,599    | ...       | 7,101    | 407,700    | 142,695                  | 54,082                | 5,231                 | 296,565   | 59,313     | 704,265      | 202,008    |
| 5                | Crown Lands ...      | 658,659    | ...       | 22,824   | 681,483    | 238,519                  | 70,770                | ...                   | 353,850   | 70,770     | 1,035,333    | 309,289    |
|                  | Private Property ... | 17,672     | ...       | 21,342   | 39,015     | 13,655                   | 155,365               | ...                   | 779,325   | 155,365    | 818,340      | 169,520    |
|                  |                      |            |           |          |            |                          |                       | Karri                 |           |            |              |            |
| 6                | Crown Lands ...      | 1,625,622  | 3,061,773 | ...      | 4,687,395  | 1,395,647                | 3,195                 | 2,698                 | 29,465    | 5,893      | 4,716,860    | 1,401,540  |
|                  | Private Property ... | ...        | 139,342   | ...      | 139,342    | 37,622                   | 5,659                 | ...                   | 28,295    | 5,659      | 167,637      | 43,231     |
| 7                | Crown Lands ...      | ...        | ...       | ...      | ...        | ...                      | ...                   | 456                   | 2,280     | 456        | 2,280        | 456        |
|                  | Private Property ... | ...        | ...       | ...      | ...        | ...                      | ...                   | ...                   | ...       | ...        | ...          | ...        |
| 8                | Crown Lands ...      | 926,807    | ...       | 1,354    | 928,161    | 324,856                  | 6,140                 | ...                   | 30,700    | 6,140      | 958,861      | 330,996    |
|                  | Private Property ... | ...        | ...       | ...      | ...        | ...                      | 8,418                 | ...                   | 42,090    | 8,418      | 42,090       | 8,418      |
| 9                | Crown Lands ...      | 11,248     | ...       | 12,234   | 23,482     | 8,219                    | 23                    | ...                   | 115       | 23         | 23,597       | 8,242      |
|                  | Private Property ... | 36,750     | ...       | ...      | 36,750     | 12,363                   | 411                   | ...                   | 2,055     | 411        | 38,805       | 13,274     |
| 10               | Crown Lands ...      | 624,929    | ...       | 10,189   | 635,118    | 222,291                  | 5,303                 | ...                   | 26,515    | 5,303      | 661,633      | 227,594    |
|                  | Private Property ... | ...        | ...       | ...      | ...        | ...                      | 26,908                | ...                   | 134,540   | 26,908     | 134,540      | 26,908     |
| Totals           | Crown Lands ...      | 9,042,017  | 3,061,773 | 85,297   | 12,189,087 | 4,021,239                | 192,166               | k. 2,698<br>w. 456    | 976,600   | 195,320    | 13,165,687   | 4,216,559  |
|                  | Private Property ... | 588,073    | 140,488   | 76,263   | 804,824    | 270,449                  | 325,139               | w. 5,231              | 1,651,850 | 330,370    | 2,456,674    | 600,819    |
| Grand Totals     | ...                  | 9,630,090  | 3,202,261 | *161,560 | 12,993,911 | 4,291,688                | 517,305               | 8,385                 | 2,628,450 | 525,690    | 15,622,361   | 4,817,378  |

\* Includes 41,487 cub. ft. Pine; 37,740 cub. ft. Tuart; 27,538 cubic ft. Blackbutt; 21,863 cub. ft. Sheoak; 20,271 cub. ft. Wandoo; 9,096 cub. ft. Marri; 3,168 cub. ft. Banksia; and 392 cub. ft. Bullich.

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

## SAWMILLING AND HEWING.

During the year 4,817,378 cubic feet of sawn and hewn timber, valued at £578,000, were produced from 15,622,361 cubic feet of logs obtained from Crown lands and private property. The output of timber in the square from Crown lands for the year under review was 4,216,559 cubic feet, being 16 per cent. greater than that of the previous year. The quantity obtained from private property was only 600,819 cubic feet, as compared with 918,311 cubic feet for the year ended 30th June, 1932. There has been an increase of 21 per cent. on last year's operations in the output of sawn timber from Crown lands, and a similar increase is shown in sawn timber from private property.

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

| Year.   | From Crown Lands.               |                    |                     | From Private Property.          |                     | Estimated Value of timber obtained. |
|---------|---------------------------------|--------------------|---------------------|---------------------------------|---------------------|-------------------------------------|
|         | Sawn timber excluding sleepers. | Sawn sleepers.     | Hewn timber.        | Sawn timber including sleepers. | Hewn timber.        |                                     |
| 1931-32 | cub. ft.<br>3,229,491           | cub. ft.<br>84,300 | cub. ft.<br>318,741 | cub. ft.<br>221,943             | cub. ft.<br>696,368 | £<br>546,000                        |
| 1932-33 | 3,884,460                       | 136,779            | 195,320             | 270,449                         | 330,370             | 578,000                             |

During recent months the increase in orders from overseas for our hardwoods has been most encouraging, and it is hoped that this is an indication that the industry is emerging from the state of depression which has existed for the past three or four years. Recent orders for sleepers from the Commonwealth Government, the South African Union, Ceylon, Mauritius, Persia, and Portuguese East Africa have given employment to a large number of hewers, and at the end of the year 600 men were employed in this capacity.

The number of mills operating on Crown lands at the end of the year, apart from small mills cutting fruit cases, totaled 22, an increase of five on the number operating at the beginning of the year. Although a number of mills are still closed down, increased outputs are reported from most of those that were operating. Compared with last year's operations on Crown lands, 12,000 more logs were converted into sawn timber, or an average increase of 1,000 logs per month. The volume of sawn timber produced totalled 4,291,688 cubic feet, which includes 270,449 cubic feet from private property.

With the increased production of fruit, the supply of fruit cases is becoming an important item in the sawmilling industry. It is estimated that, during last season, 351,000 cubic feet of timber for fruit cases, or approximately eight per cent. of the sawn timber, valued at £42,000, were used.

#### TIMBER EXPORTS.

The quantity of timber exported during the year totalled 2,235,540 cubic feet, valued at £262,617. In addition, wood manufactures to the value of £80,332 were shipped during the same period, making the total value of timber and wood manufactures £342,969. These figures do not include the value of cases used in connection with the fruit export business, and which is estimated at approximately £30,000. The value of the timber exported last year is the lowest on record since 1918, and is £104,000 below that for 1931-32. The export trade should, however, show an improvement during the coming year, as a number of oversea orders obtained during the latter portion of the year, and for which the timber has been cut, have not yet been shipped.

The Eastern States of Australia were the largest buyers of our hardwoods, and purchased timber to the value of £107,154. The other principal buyers were the United Kingdom, £56,361; South African Union, £28,563; Ceylon, £22,222; Iraq, £10,971; Portuguese East Africa, £10,333. Full details of the timber exported are given in Appendix 2a.

#### TIMBER IMPORTS.

Timber (including wood manufactures) to the value of £197,916 was imported into the State during the year. Of this amount £147,937 was received from the Eastern States and represents principally the value of manufactured wood articles, such as barrels and casks, £55,578; furniture, £24,820; plywood and veneers, £14,903; tool handles (including axe), £8,062, and other wood manufactures, £22,945. The principal overseas countries from which timber was imported were Canada, £15,333; United States of America, £10,531; Sweden, £10,429, and Latvia, £4,464. The volume of timber imported, apart from manufactured articles, was approximately 540,000 cubic feet, of which 55 per cent. was for making boxes. It is interesting to note from the detailed statement of imports (Appendix 2b) that the bulk of the tool handles, which formerly came from America, are now being produced in Australia, and that our requirements of plywoods and veneers, a large proportion of which previously came from America and Japan, are being met almost entirely in the Commonwealth.

#### TIMBER INSPECTION.

The quantity of sawn and hewn timber submitted to the Department for inspection was 1,034,515 cubic feet, and, in addition to this timber, 59,587 lineal feet of piles and poles were inspected. The inspection fees received by the Department amounted to £2,292, which is £804 less than for the previous financial year. Although the quantity of timber inspected is slightly less than that dealt with during the previous year, the reduction in revenue is partly accounted for by the reduction in the rates of inspection fees.

#### SANDALWOOD.

Single unit control over the export of all sandalwood from Western Australia and South Australia, under an agreement made between the Governments of the two States and the Sandalwood Companies, was established as from the 1st July, 1932, and after twelve months' operations it is satisfactory to report that the industry has shown very definite improvement. There is every indication that the market is responding to stabilised conditions. Prices have been maintained, and the sales during the past twelve months have been considerably above the average for the two previous years.

The committee appointed under the agreement, consisting of one representative of each Government and one joint representative of the companies, is responsible for the management and regulation of the sandalwood export business in the two States and the selling policy and prices in China. In addition, it controls the quantity of new wood to be pulled in each State, which is now regulated by actual sales in China, subject to provision being made for the gradual liquidation of stocks in both States.

As in previous years, all applications for sandalwood orders have been dealt with by an advisory board, and the distribution of orders amongst sandalwood getters and prospectors has been made on their recommendations. During the past year, 205 orders were issued for 1,230 tons of logs for export, to be obtained from Crown lands. The quantity of wood delivered under these orders totalled 1,071 tons. Most of this wood was of fair average quality, and returned to the getter the full price of £16 per ton. Reductions in price were authorised in respect of 181 tons, principally on account of the wood not being cleaned free of sapwood. After allowing for these reductions, the average price paid to the getter for logs was £15 16s. 11d. per ton.

*Sandalwood from Private Property.*

In accordance with the provisions of "The Sandalwood Act, 1929," ten per cent. of the total quantity of sandalwood to be pulled annually has been allocated to private property. During the year 25 licenses were issued for the pulling of 121 tons of wood, and to the 30th June 75 tons of this had been delivered.

*Sandalwood Exports.*

Sandalwood to the value of £88,846 was exported during the year, as compared with £40,546 for the previous year.

*Sandalwood for Oil Distillation.*

The quantity of sandalwood purchased for oil distillation within the State amounted to only 664 tons, as compared with 815 tons for the previous year. Sales of sandalwood oil have fallen off as a result of the general trade depression, and with the accumulation of large stocks distillers have found it necessary to temporarily close down their works.

The raw material supplied for oil distillation during the year included 246 tons of roots and butts obtained from the sandalwood logs pulled for export, 231 tons of old roots and stumps left in the ground after previous pulling operations, and 187 tons of sandalwood logs obtained from that portion of the State north of the 26th parallel of south latitude, where the sandalwood has been reserved for oil distillation purposes.

## OTHER FOREST PRODUCE.

*Mallet Bark.*

The system introduced at the beginning of last mallet bark season whereby licenses were issued to the bark merchants, which authorised them to place orders for the stripping of bark on Crown lands, proved fairly satisfactory. The Department was kept advised of all orders placed, and was in a better position to supervise the stripping operations than hitherto, and was thus able to prevent wasteful stripping methods and illegal removal of bark. The quantity of mallet bark obtained during the year from Crown lands and private property amounted to 4,374 tons.

Three thousand four hundred and sixty-two tons of bark, valued at £33,352, were exported. The Eastern States of Australia purchased 1,423 tons, Germany 1,067 tons, the Netherlands 896 tons, and Italy 76 tons.

*Mining Timber and Firewood.*

For some time past numerous complaints have been received from pastoralists and others concerning the operations of firewood and mining timber contractors on pastoral areas in goldfields districts. As the present mining activities have resulted in an increased consumption of mining timber and firewood, arrangements were made for a full investigation of the position with a view to placing these operations on a more satisfactory basis.

As a result of our inquiries it was found that in the majority of districts, where there has been no control, timber cutting operations (which are carried out almost exclusively on pastoral areas) were being conducted in a very unsatisfactory manner. Operations have resulted in a considerable waste of timber by unauthorised cutters, private roads and tracks were being damaged by heavily-loaded motor trucks, and fences and gates were being broken down. It was seen that if the interests of all parties were to be safeguarded, departmental control was necessary, and it was decided to issue licenses to all contractors, giving the exclusive right to cut on defined areas. Periodic inspections will be made of their operations to see that the bush is being cut out satisfactorily, and that the conditions of licenses are being observed. In this way it will be possible to exclude areas of timber necessary for pastoral requirements, and protect for shade the trees around homesteads, shearing sheds, wells, etc.

To cover the increased cost of supervision, royalty is being charged on the timber obtained. This policy was put into operation in November last, and is now working satisfactorily.

*Poles and Piles.*

In the past a large proportion of the pole and pile requirements were met from private property, but from the numerous inquiries which are now being received whenever tenders are being invited for the supply of poles and piles, it is evident that this source of supply is rapidly diminishing, and a greater proportion of the future contracts will have to be supplied from Crown lands.



The figures set out in the statement hereunder show that 120,000 lineal feet of poles and piles were reported to the Department as having been supplied during the year. Compared with the previous year, these figures show an increase of 65,000 lineal feet.

FOREST PRODUCE NOT ELSEWHERE INCLUDED IN PRODUCTION TABLES OBTAINED DURING YEAR ENDED  
30TH JUNE, 1933, AND REPORTED TO THE DEPARTMENT.

| Description of Forest Produce.       | SOUTH-WEST DIVISION AND AGRICULTURAL AREAS. |        |        |       |        |       |       |        |       |       | Northern,<br>Central<br>and<br>Eastern<br>Goldfields. | Total.           |
|--------------------------------------|---|--------|--------|-------|--------|-------|-------|--------|-------|-------|---|------------------|
|                                      | Forest Division No.                         |        |        |       |        |       |       |        |       |       |   |                  |
|                                      | 1   | 2      | 3      | 4     | 5      | 6     | 7     | 8      | 9     | 10    |   |                  |
| Mining Timber ... .. tons            | ...   | ...    | ...    | 1,076 | ...    | ...   | ...   | ...    | ...   | ...   | 11,450  | 12,526 tons      |
| Sleepers for Goldfields Wood         | ...   | ...    | ...    | ...   | ...    | ...   | ...   | ...    | ...   | ...   | ...   | ...              |
| Lines ... .. cubic ft.               | ...   | ...    | ...    | ...   | ...    | ...   | ...   | ...    | ...   | ...   | 24,694  | 24,694 c. ft.    |
| Firewood including Charcoal ... tons | 49  | 13,823 | 1,549  | 133   | 264    | ...   | 177   | 24,777 | 3,727 | 38    | 132,610   | 177,147 tons     |
| Mining Firewood ... ..               | ...   | ...    | ...    | ...   | ...    | ...   | ...   | ...    | ...   | ...   | 271,600   | 271,600 tons     |
| Piles and Poles * ... .. lin. ft.    | 878   | 1,350  | 39,830 | 7,275 | 42,948 | 1,918 | 2,500 | 17,485 | 2,771 | 3,177 | ...   | 120,132 lin. ft. |
| Fencing Posts and Rails ... No.      | ...   | ...    | 1,400  | 120   | 6,593  | 300   | 2,850 | 100    | 200   | ...   | 11,256  | 22,819 No.       |
| Blackboy ... .. tons                 | ...   | ...    | ...    | ...   | ...    | ...   | ...   | ...    | 173   | ...   | ...   | 173 tons         |
| Blackboy Gum ... ..                  | ...   | ...    | ...    | ...   | ...    | ...   | ...   | ...    | 6     | ...   | ...   | 6 tons           |
| Mallet Bark * ... ..                 | ...   | ...    | ...    | ...   | ...    | ...   | 4,374 | ...    | ...   | ...   | ...   | 4,374 tons       |
| Wandoo Bark ... ..                   | ...   | ...    | ...    | ...   | ...    | 198   | ...   | ...    | ...   | ...   | ...   | 198 tons         |
| Wattle Bark ... ..                   | ...   | ...    | ...    | ...   | ...    | ...   | ...   | ...    | ...   | 2     | ...   | 2 tons           |
| Beefwood ... ..                      | ...   | ...    | ...    | ...   | ...    | ...   | ...   | ...    | ...   | ...   | 2   | 2 tons           |

\* From Crown lands and private property.

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

#### FOREST OFFENCES.

Field officers reported 62 forest offences during the year, 37 of which were for illegally cutting timber, 21 for illegally stripping mallet bark, one for burning off within a fire protected area without first obtaining a "permit to burn," and one for refusing to supply a forest officer with information regarding timber cutting operations.

Many of the offences were of a minor nature, and apart from collecting royalties, license fees, or damages, etc., amounting to £104, for forest produce illegally obtained no further action was taken. In nine cases only were proceedings taken against the offenders, and in seven of these fines amounting to £57 10s., with costs £4 17s. 6d., were imposed. Two cases were dismissed.

Timber illegally cut, and disposed of by the Department was sold for £37. Forty-five tons of mallet bark illegally stripped were seized and sold, for which the Department received, after paying compassionate payments, cost of carting, storing, etc., £144.

Thirty-seven tons of sandalwood, valued at £785 were confiscated for various breaches of the regulations. Compassionate payments, totalling £244, were made in several cases to cover cost of carting, loading, and freight on such sandalwood, and the balance of £542, resulting from the sale of the wood was paid into revenue.

### CHAPTER III.

#### (1)—EXPENDITURE.

The administration costs which are charged to Consolidated Revenue Fund were again reduced, the expenditure for the year being £12,835, compared with £14,272 for the previous period.

A further amount of £133,850 was made available to the Department from General Loan Fund for unemployment relief, and throughout the year large numbers of men were engaged on reproductive work, particulars of which are given later in the report.

Three-fifths of the net revenue of the Department produced only £17,799 during the financial year, and that amount was credited to the Reforestation Fund, in accordance with Section 41 of "The Forests Act, 1918."

The continued decline in the revenue collections has created an unfavourable position, so far as this fund is concerned, but up to date it has been possible to maintain fire protection and other essential services.

The following statement shows the position of the Reforestation Fund (Section 41, Forests Act, 1918) at the close of the financial year:—

|  |        |                |
|--|--------|----------------|
|  | £      | £              |
| Revenue for 1932-33 ... ..                   | ...    | 65,875         |
| Less Sandalwood not yet apportioned ... ..   | ...    | 13,576         |
|  |        | <u>52,299</u>  |
| Consolidated Revenue Fund Expenditure ... .. | 12,834 |                |
| Less Expenditure Adjustments ... ..          | 955    |                |
|  |        | <u>11,879</u>  |
| Interest on Loans ... ..                     | 9,378  |                |
| Sinking Fund ... ..                          | 432    |                |
| Special Acts ... ..                          | 837    |                |
| Audit Fee ... ..                             | 108    |                |
|  |        | <u>22,634</u>  |
|  |        | <u>£29,665</u> |

After crediting three-fifths of the above amount to the Reforestation Fund, the position at the close of the year was as shown hereunder:—

|  |        |                |
|--|--------|----------------|
|  | £      | £              |
| Balance at the 1st July, 1932 ... ..                             | ...    | 2,325          |
| Three-fifths of Revenue transferred ... ..                       | 17,799 |                |
| Plus adjustment on Account of reduction in Interest rates ... .. | 208    |                |
| Direct Credits ... ..  | 2,374  |                |
|  |        | <u>20,381</u>  |
|  |        | <u>22,706</u>  |
| Less Expenditure 1932-33 ... ..                                  | ...    | 10,386         |
|  |        | <u>£12,320</u> |

(2.) REFORESTATION OPERATIONS.

(A) FOREST MANAGEMENT.

SUMMARY OF WORK CARRIED OUT DURING YEAR.

| Division and District.     | Topographical Survey. | Assessment Survey. | Roads and Tracks Cleared. | Telephone Lines Constructed. | Houses Built. |
|----------------------------|-----------------------|--------------------|---------------------------|------------------------------|---------------|
|                            | miles.                | acres.             | miles.                    | miles.                       |               |
| DIVISION 1—                |                       |                    |                           |                              |               |
| Busselton ... ..           | ...                   | ...                | ...                       | ...                          | ...           |
| Margaret River ... ..      | ...                   | ...                | ...                       | ...                          | 1             |
| DIVISION 2—                |                       |                    |                           |                              |               |
| Mundaring ... ..           | ...                   | 1,480              | 10½                       | 3½                           | ...           |
| DIVISION 3—                |                       |                    |                           |                              |               |
| Dwellingup ... ..          | 122                   | 1,840              | 21½                       | 2½                           | ...           |
| Wuraming ... ..            | 430                   | 770                | 19                        | ...                          | ...           |
| Huntly ... ..              | 179                   | 1,040              | 16½                       | 6                            | ...           |
| Solus ... ..               | ...                   | ...                | 23½                       | ...                          | ...           |
| Duncans ... ..             | 398                   | 1,740              | 60½                       | 4                            | ...           |
| DIVISION 4—                |                       |                    |                           |                              |               |
| Collie ... ..              | ...                   | ...                | 14½                       | ...                          | ...           |
| Muja ... ..                | ...                   | ...                | ...                       | ...                          | ...           |
| Worsley ... ..             | ...                   | ...                | ...                       | ...                          | ...           |
| Wellington ... ..          | ...                   | ...                | ...                       | ...                          | ...           |
| DIVISION 5—                |                       |                    |                           |                              |               |
| Kirup ... ..               | ...                   | ...                | 4½                        | ...                          | ...           |
| Noggerup ... ..            | ...                   | ...                | ...                       | ...                          | ...           |
| Bridgetown ... ..          | ...                   | ...                | ...                       | ...                          | ...           |
| Jarrahwod ... ..           | ...                   | ...                | 1½                        | ...                          | ...           |
| Nannup ... ..              | ...                   | ...                | 15½                       | ...                          | ...           |
| DIVISION 6—                |                       |                    |                           |                              |               |
| Manjimup ... ..            | 42                    | 3,300              | 26                        | ...                          | ...           |
| DIVISION 7—                |                       |                    |                           |                              |               |
| Narrogin ... ..            | ...                   | ...                | 25½                       | ...                          | ...           |
| DIVISION 8—                |                       |                    |                           |                              |               |
| Jarrahdale ... ..          | 141                   | ...                | 40                        | ...                          | 1             |
| Karragullen ... ..         | 228                   | ...                | 32                        | 33½                          | ...           |
| DIVISION 9—                |                       |                    |                           |                              |               |
| Metropolitan Albany ... .. | ...                   | ...                | ...                       | ...                          | ...           |
| DIVISION 10—               |                       |                    |                           |                              |               |
| Hamel ... ..               | ...                   | ...                | ...                       | ...                          | ...           |
| Yarloop ... ..             | ...                   | 1,030              | 56½                       | ...                          | 5             |
| Mornington ... ..          | 875                   | 3,970              | 36½                       | ...                          | ...           |
| Totals ... ..              | 2,415                 | 15,170             | 403½                      | 49½                          | 7             |

## FOREST SURVEYS.

Twelve camps operated in Divisions 3, 8 and 10. They carried out feature surveys primarily to establish compartment boundaries, necessitating the surveying of 1,669 miles of traverse lines. Six hundred and thirteen miles of fire lines were located and surveyed around compartments, and country adjacent to traverse lines was type-mapped. One hundred and fifty-one miles of base lines through compartments (Jarrah forest) were surveyed and posts trenched 5 chains apart and temporary offset posts set up at right angles to the base line. These base lines are essential to the laying out of working coupes for unemployment relief work on a piece-work basis and will have a permanent value in orientating future operations on the large compartments (500 acres).

Co-operation between the Department and the survey staff of Millars' Timber & Trading Co. and State Saw Mills was continued. Under this arrangement 42 miles of log lines were traversed during the year.

## ASSESSMENT SURVEY.

Prior to the commencement of regeneration operations at all centres, type-mapping of the country to be treated was carried out by District and Divisional staffs, but no assessment or classification camps were established during the year.

In the Yarloop and Mornington districts detailed classifications of timber and soil on swamp land were made prior to the establishment of forest settlements. Further work of a like nature was also carried out in the Dwellingup, Wuraming, Huntly and Duncans districts.

A thinning programme for the pine plantations at Mundaring Weir was drawn up. This necessitated the preparation of stock maps covering 1,480 acres of planted country.

## PERMANENT ESTABLISHMENTS.

Seven (7) houses were erected during the year. Five (5) of these were placed at Willowdale Forest Settlement, where four (4) small farms have been established. Experienced men will be settled on these, and will work the holdings in conjunction with part-time forest work with the Department. The remaining houses, resident overseers' quarters, were built at Margaret River and in the Jarrahdale district.

The telephone system (earth circuit) was extended by a further 49½ miles, chiefly in centres where new camps had been established and new areas had been brought under treatment.

The opening up of fresh centres for silvicultural work necessitated a big increase in the clearing of roads, 403½ miles being cleared, compared with 269½ miles in the previous year. Relief workers were again employed on this necessary work, and use was made of former tramway formations and whim tracks.

## (B) SILVICULTURE.

(a) Jarrah.

## SUMMARY OF OPERATIONS FOR THE YEAR.

| Division and District. | Top Disposal. | Treated for Regeneration. | Thinning. | Improvement Work. | Tree-marking. |         |
|------------------------|---------------|---------------------------|-----------|-------------------|---------------|---------|
|                        |               |                           |           |                   | Sawmilling.   | Hewing. |
| DIVISION 2—            | acres.        | acres.                    | acres.    | acres.            | acres.        | acres.  |
| Mundaring ... ..       | ...           | 420                       | 280       | ...               | ...           | ...     |
| DIVISION 3—            |               |                           |           |                   |               |         |
| Dwellingup ... ..      | 800           | 4,120                     | 2,646     | ...               | 1,976         | ...     |
| Wuraming ... ..        | 1,697         | 1,410                     | 969       | ...               | 805           | ...     |
| Duncan's ... ..        | 1,852         | 1,962                     | 881       | ...               | 565           | ...     |
| Huntly ... ..          | 821           | 1,372                     | 813       | ...               | 531           | ...     |
| Solus ... ..           | ...           | 3,616                     | 1,197     | ...               | ...           | ...     |
| DIVISION 4—            |               |                           |           |                   |               |         |
| Collie ... ..          | ...           | 2,565                     | 3,287     | ...               | 1,523         | ...     |
| Worsley ... ..         | ...           | 648                       | 335       | ...               | ...           | ...     |
| Wellington ... ..      | ...           | 1,763                     | 569       | ...               | ...           | 316     |
| DIVISION 5—            |               |                           |           |                   |               |         |
| Kirup ... ..           | 100           | 2,177                     | 515       | 712               | 2,943         | ...     |
| Noggerup ... ..        | ...           | 6                         | 184       | ...               | ...           | ...     |
| Bridgetown ... ..      | ...           | 147                       | 771       | 152               | ...           | ...     |
| Nannup ... ..          | ...           | 2,232                     | 98        | 2,127             | ...           | ...     |
| DIVISION 6—            |               |                           |           |                   |               |         |
| Manjimup ... ..        | 1,150         | 765                       | ...       | 1,910             | ...           | ...     |
| DIVISION 8—            |               |                           |           |                   |               |         |
| Jarrahdale ... ..      | ...           | 2,312                     | ...       | ...               | ...           | ...     |
| Karragullen ... ..     | 2,108         | 2,728                     | 1,823     | 14                | 4,712         | ...     |
| DIVISION 10—           |               |                           |           |                   |               |         |
| Yarloop ... ..         | ...           | 2,003                     | 2,864     | 1,724             | ...           | ...     |
| Mornington ... ..      | 314           | 674                       | 1,344     | 349               | ...           | ...     |
| Totals ... ..          | 8,842         | 30,920                    | 18,576    | 6,988             | 13,055        | 316     |

Although the above figures show a small decrease in the area of Jarrah forest which received silvicultural treatment compared with the record established in the previous year, much has been done in addition to the standard treatments of regeneration cleaning and thinning to consolidate and improve the work of past years. The additional area of Jarrah forest which was treated intensively during the year was 33,836 acres.

That the provisions of the general working plan laid down in 1929 are being carried out, is shown by a comparison between the area cut over for sawmilling and the area brought under silvicultural treatment. The figures are:—

|  |               |
|--|---------------|
| Cut over for sawmilling, 1929-33 .. .. . | 85,925 acres. |
| Treated, 1929-33 .. .. .                 | 163,037 acres |

This shows that during the past four years the department has made up some 80,000 acres of leeway in the re-stocking of cut-over forest carrying burnt and malformed poles resulting from past neglect. Unfortunately, not only is the cost of treating this damaged and maltreated young forest much greater than the cost of regeneration operations immediately after logging, but the large volume of timber represented by the normal increment of the new crop, between the time of trade cutting for sawmilling and hewing and the time when the area is finally regenerated and protected, is irrevocably lost.

The outstanding features of the work of the department in silviculture during the past year were: (1) the big increase in area of cut-over Jarrah forest treated intensively for natural regeneration and fully stocked with a vigorous new crop; (2) a corresponding increase in the area of thinning carried out in stands of saplings established by treatment of past years; (3) the large area (28,598 acres) over which future fire hazards have been reduced in regenerated Jarrah forest by stacking and burning a proportion of the debris littering the forest floor; and (4) the continued and increased use of unemployed on a relief work basis in all branches of the work.

Whereas during 1931-32, 17,293 acres were treated for regeneration cleaning in order to re-stock areas carrying useless trees and malformed re-growth, during the current year 30,920 acres received similar treatment.

With the passage of years, the sapling stands resulting from the first regeneration treatment are calling for attention, and thinning operations were carried out on 6,637 acres. The total area thinned, both in forest of the above class and in natural re-growth brought within the scope of fire prevention measures, was 18,576 acres.

Much has been done by the Department towards the absorption of the unemployed in relief work. Up to 1,500 relief workers, both single and married, have been employed, and although many of these men had had little previous experience in the work, under the supervision of trained overseers, they have carried out valuable and useful work, and the relations between officers of the department and the men have been very satisfactory.

An increase in the area tree-marked for sawmilling was a welcome sign of some increased activity in the timber trade—13,055 acres being marked, compared with 10,346 acres in 1931-32.

New centres of work were established in the Jarrahdale, Huntly and Mornington districts.

The total area of cut-over Jarrah forest which, during the past 10 years, has been brought under intensive management, involving fire-break systems, fire-control organisation, and re-stocking by natural regeneration and necessary thinning operations, now amounts to 208,315 acres.

#### (b) *Karri.*

In the Manjimup district, at Big Brook and 4- and 5-Mile Brooks, considerable progress was made with the regeneration of Karri.

Twelve-hundred-and-seventy acres at the latter centre, which had received preliminary regeneration treatment in 1931-32, were completed, and protection afforded the new crop by an extensive fire-break system. One-hundred acres were sown with Karri seed.

At Big Brook, where an area of approximately 4,600 acres has been successfully regenerated during the past five years, a further 283 acres received a preliminary treatment. A prevalence of bush fires in this district has necessitated the improvement and extension of the fire-break system. Sowing was carried out over 210 acres.

In the Yanmah area, where Karri and Jarrah occur in scattered stands, an area of 65 acres of Karri received regeneration treatment.

At Boranup, in the Margaret River district, with the advent of a seed year, a further 204 acres received a final regeneration treatment.

The total area of Karri which has to date received silvicultural treatment is 8,701 acres.

(c) *Mallet.*

In the Narrogin district the poorer classes of country, at present unproductive, are being utilised for the propagation of mallet. The extensive programme initiated last season was further extended by the sowing of 1,579 acres. The total area now sown is 3,978 acres.

The area of 756 acres of natural stands of young mallet previously thinned was increased by 93 acres.

During the year 1,004 acres were cleared for future planting.

The road system was extended by a further 25½ miles.

The use of unemployed in all branches of the work was continued, up to 50 men being engaged.

That public interest in the reforestation of waste land with mallet is increasing, was shown by the fact that the Wagin Municipality and Road Board have handed over to the control of the Department certain lands in the vicinity. Work is now proceeding on the areas; unemployed in the district being utilised.

(d) *Sandalwood.*

No sowing of sandalwood was carried out during the year in the Eastern Goldfields, as it was considered advisable to await the results of previous experimental work in this direction.

On established plots, owing to the dry season, very little growth took place during the year, and little further damage was done by rabbits. From measurements it has been noted that seedlings are suffering from the effects of the past three dry seasons.

Experimental sowings along the Great Southern Railway and in the extreme South-West were continued, with encouraging results.

One curious feature is that although rabbits may be plentiful in these higher rainfall districts, they display little or no interest in the seedling sandalwood, even when the grass dries off, whereas under similar conditions in the Eastern Goldfields, extensive experiments have shown that every young plant would be bitten off by the rabbits.

## (C).—FIRE CONTROL.

| District.             | Area under Fire Control. | Area afforded Complete Protection. |  |              |                             |               |              |     |     |
|-----------------------|--------------------------|------------------------------------|--|--------------|-----------------------------|---------------|--------------|-----|-----|
|                       |                          | Indigenous Forest.                 |  |              | Pine Plantation.            |               |              |     |     |
|                       |                          | In course of Treatment.            | Regenerated and tended to 15th June, 1932. | Fire Losses. | Being Cleared for Planting. | Planted Area. | Fire Losses. |     |     |
|                       | acres.                   | acres.                             | acres.                                     | acres.       | acres.                      | acres.        |              |     |     |
| DIVISION 1—           |                          |                                    |  |              |                             |               |              |     |     |
| Busselton ... ..      | 6,000                    | ...                                | ...  | ...          | 195                         | 1,115         | ...          |     |     |
| Margaret River ... .. | 5,000                    | ...                                | 2,366                                      | ...          | 383                         | 35            | ...          |     |     |
| DIVISION 2—           |                          |                                    |  |              |                             |               |              |     |     |
| Mundaring ... ..      | 10,000                   | 135                                | 2,785                                      | 100          | 360                         | 1,947         | ...          |     |     |
| DIVISION 3—           |                          |                                    |  |              |                             |               |              |     |     |
| Dwellingup ... ..     | 200,000                  | 1,578                              | 44,106                                     | 45           | ...                         | ...           | ...          |     |     |
| Wuraming ... ..       |                          | 929                                |  | ...          | ...                         | ...           |              |     |     |
| Huntly ... ..         |                          | 835                                |  | ...          | ...                         | ...           |              |     |     |
| Solus ... ..          |                          | 2,925                              |  | ...          | ...                         | ...           |              |     |     |
| Duncan's ... ..       |                          | 1,311                              |  | ...          | ...                         | ...           |              |     |     |
| DIVISION 4—           |                          |                                    |  |              |                             |               |              |     |     |
| Collie ... ..         | 155,000                  | 2,388                              | 36,113                                     | 60           | 20                          | 414           | ...          |     |     |
| Muja ... ..           |                          | ...                                |  | ...          | ...                         | ...           |              |     |     |
| Worsley ... ..        |                          | 462                                |  | ...          | ...                         | ...           |              |     |     |
| Wellington ... ..     |                          | 735                                |  | ...          | ...                         | ...           |              |     |     |
| DIVISION 5—           |                          |                                    |  |              |                             |               |              |     |     |
| Kirup ... ..          | 129,000                  | 589                                | 34,963                                     | 100          | 375                         | ...           | ...          |     |     |
| Noggerup ... ..       |                          | 6                                  |  |              |                             | ...           | ...          |     |     |
| Bridgetown ... ..     |                          | 8,000                              |  |              |                             | 147           | 6,378        | 8   | ... |
| Nannup ... ..         |                          | 46,300                             |  |              |                             | 1,641         | 15,795       | 145 | 64  |
| DIVISION 6—           |                          |                                    |  |              |                             |               |              |     |     |
| Manjimup ... ..       | 14,000                   | { 2,980<br>* 348 }                 | 10,218                                     | 60           | 185                         | 129           | 13           |     |     |
| DIVISION 7—           |                          |                                    |  |              |                             |               |              |     |     |
| Narrogin ... ..       | 50,000                   | † 1,500                            | 4,734                                      | ...          | ...                         | ...           | ...          |     |     |
| DIVISION 8—           |                          |                                    |  |              |                             |               |              |     |     |
| Jarrahdale ... ..     | 4,700                    | 132                                | 3,525                                      | ...          | ...                         | ...           | ...          |     |     |
| Karragullen ... ..    | 26,000                   | 2,484                              | 14,361                                     | ...          | ...                         | ...           | ...          |     |     |
| DIVISION 9—           |                          |                                    |  |              |                             |               |              |     |     |
| Metropolitan ... ..   | 4,500                    | ...                                | ...  | ...          | 1,300                       | 1,794         | ...          |     |     |
| Albany ... ..         | 700                      | ...                                | ...  | ...          | 225                         | 313           | ...          |     |     |
| DIVISION 10—          |                          |                                    |  |              |                             |               |              |     |     |
| Hamel ... ..          | 20,000                   | ...                                | 12,343                                     | ...          | 445                         | 960           | ...          |     |     |
| Yarloop ... ..        |                          | 995                                |  | ...          | ...                         |               |              |     |     |
| Mornington ... ..     |                          | 517                                |  | ...          | ...                         |               |              |     |     |
| Totals ... ..         | 679,200                  | 22,637                             | 187,687                                    | 518          | 3,488                       | 6,771         | 13           |     |     |

\* Karri.

† Mallet.

In a season marked by the occurrence of extremely hot weather, temperatures ranging from 102 deg. to 112 deg. being experienced for a week in February, 1933, it is interesting to note that fire losses incurred have been so low. Losses sustained were .08 per cent. of country under fire control and 0.3 per cent. of the area under complete protection.

Although high temperatures and a hot dry summer generally were met with, few severe "blow up" days occurred, when the combination of extreme heat and strong winds tests a fire control system to its utmost. One factor, however, which added to the anxiety of the fire control staff, was the excessive leaf fall occasioned by the abnormal weather.

Considerable attention was paid during the year to the improvement of fire-breaks and fire-lines, both from the point of view of assisting in controlled burning and allowing for quick access to the source of an outbreak and its subsequent suppression.

A material aid was given the forester in reducing his fire hazard, by the introduction of the system of stacking and burning a certain amount of the debris resulting from thinning treatments or regeneration cleaning on many compartments in each district.

The gratifying results obtained this year are due to the continued vigilance of a trained field staff, living in close association with every local problem of fire control, the use of modern equipment for detection and fire fighting, and the elimination, both by controlled burning and silvicultural methods, of dangerous fire hazards.

### (3.) AFFORESTATION.

#### AREAS OF CONIFERS ESTABLISHED DURING THE MONTHS OF JUNE, JULY, AND AUGUST, 1932.

| District.                       | Plantations.  | Area established prior to 1932. |                        |                 |        | Area established, 1932. |                        |                 |        | Grand Total. |
|---------------------------------|---------------|---------------------------------|------------------------|-----------------|--------|-------------------------|------------------------|-----------------|--------|--------------|
|                                 |               | <i>Pinus radiata.</i>           | <i>Pinus pinaster.</i> | Other conifers. | Total. | <i>Pinus radiata.</i>   | <i>Pinus pinaster.</i> | Other conifers. | Total. |              |
| DIVISION 1—<br>Busselton ...    | *Coolilup ... | 7                               | 749                    | 23              | 779    | ...                     | 22                     | ...             | 22     | 801          |
|                                 | Stirling ...  | 1                               | 197                    | 20              | 218    | ...                     | 96                     | ...             | 96     | 314          |
| Margaret River                  | Boranup ...   | ...                             | 12                     | ...             | 12     | 23                      | ...                    | ...             | 23     | 35           |
| DIVISION 2—<br>Mundaring ...    | Helena ...    | 477                             | 130                    | 45              | 652    | ...                     | ...                    | ...             | ...    | 652          |
|                                 | Greystones    | 437                             | 192                    | 57              | 686    | ...                     | ...                    | ...             | ...    | 686          |
|                                 | Beraking ...  | 143                             | 65                     | 92              | 300    | ...                     | ...                    | ...             | ...    | 300          |
|                                 | Mudros ...    | 138                             | 30                     | 29              | 197    | ...                     | ...                    | ...             | ...    | 197          |
|                                 | Darkin ...    | 85                              | 23                     | 4               | 112    | ...                     | ...                    | ...             | ...    | 112          |
| DIVISION 4—<br>Collie ...       | Mungalup      | 59                              | 5                      | 3               | 67     | ...                     | ...                    | ...             | ...    | 67           |
|                                 | Proprietary   | ...                             | 273                    | 4               | 277    | ...                     | 5                      | ...             | 5      | 282          |
| DIVISION 6—<br>Manjimup ...     | Big Brook...  | 40                              | ...                    | 34              | 74     | 44                      | ...                    | 11              | 55     | 129          |
| DIVISION 9—<br>Metropolitan ... | Applecross    | ...                             | 483                    | ...             | 483    | ...                     | 68                     | ...             | 68     | 551          |
|                                 | Gnangara ...  | ...                             | 480                    | 7               | 487    | ...                     | 298                    | ...             | 298    | 785          |
|                                 | Collier ...   | ...                             | 338                    | ...             | 338    | ...                     | 120                    | ...             | 120    | 458          |
| Albany ...                      | Pardelup ...  | 205                             | 15                     | 1               | 221    | 67                      | 11                     | ...             | 78     | 299          |
| DIVISION 10—<br>Yarloop ...     | Myalup ...    | 2                               | 505                    | 21              | 528    | ...                     | 73                     | ...             | 73     | 601          |
|                                 | Harvey Weir   | 167                             | 35                     | 23              | 225    | 63                      | 16                     | 2               | 81     | 306          |
|                                 | Hamel ...     | 18                              | 33                     | 2               | 53     | ...                     | ...                    | ...             | ...    | 53           |
| EXPERIMENTAL<br>AREAS ...       | Nannup ...    | 14                              | 32                     | 18              | 64     | ...                     | ...                    | ...             | ...    | 64           |
|                                 | Bowelling     | 9                               | 29                     | 27              | 65     | ...                     | ...                    | ...             | ...    | 65           |
|                                 | Albany ...    | 1                               | 4                      | 9               | 14     | ...                     | ...                    | ...             | ...    | 14           |
| Totals ...                      | ...           | 1,803                           | 3,630                  | 419             | 5,852  | 197                     | 709                    | 13              | 919    | 6,771        |

\* 22 acres of millable *Pinus radiata* were cut out and replaced by *Pinus pinaster*.

The plantations may be grouped according to locality as follows:—Mundaring, area 1,947 acres; Metropolitan, area 1,794 acres; Ludlow-Margaret River, area 1,150 acres; and Harvey, area 960 acres. From this it can be noted that a valuable asset in coniferous plantations is being built up in close proximity to the Metropolitan area, 3,741 acres being within 40 miles radius. Other centres at which planting has been carried out are Collie, Big Brook (near Pemberton), and Pardelup Prison Farm, where prison labour, under the supervision of the Department, has been utilised.

The chief species planted since 1926 have been *Pinus pinaster* and *Pinus radiata*, 4,339 acres and 2,000 acres respectively, being now established. No planting of other species was carried out during the past season, it being thought that the area of 432 acres previously established at different centres in the South-West was sufficient to indicate which of the 23 species included in these experimental plots would prove suitable for future planting, or worthy of more extensive experimental planting on selected sites.

Of the 919 acres planted in 1932, 486 acres were in the Metropolitan area, at Applecross, Gnan-gara and Collier plantations; 154 acres in the Harvey area, at Myalup and Harvey Weir; and 118 acres at Ludlow. *Pinus pinaster* (709 acres) was again the main planting stock, followed by *Pinus radiata* (197 acres).

The clearing, planting, and tending of plantations at all centres has been the means of providing employment for 150 relief workers, chiefly married men, who were recruited from the city and country centres in proximity to plantations. Sustenance men have been engaged on the Metropolitan plantations on tending operations.

On the three (3) new centres opened last year, Margaret River, East Kirup, and Scaddan (Mt. Lawley) all the work preliminary to first year's planting has been completed, and planting will commence this winter. It is intended to plant approximately 500 acres at these centres.

Although the demand for locally grown softwood has increased, the amount supplied fell from 55,587 cubic feet in 1931-32 to 41,487 cubic feet this year, of which 24,363 cubic feet came from Crown lands and 17,124 cubic feet from private property. In this connection it is interesting to note that the Education Department placed an order for 2,000 cubic feet of *Pinus radiata* with the Department, for use in manual training centres, and has since reported very favourably on its use.

On the older compartments at Mundaring Weir, where the first planting was carried out in 1922, an intensive soil survey is being made with a view to trying to correlate soil conditions with growth, as a guide to further planting at this centre, and to obtaining a lead on methods of attack on growth problems which have already made themselves evident at other centres. The laboratory work is being carried out by the Government Chemical Laboratories, under a special arrangement.

#### (4)—RESEARCH AND INVESTIGATION.

Following earlier preliminary work on grading of Western Australian timbers, a comprehensive investigation was undertaken during the year in co-operation with the Council for Scientific and Industrial Research. Field studies, extending over a period of five months, were carried out by F. Gregson, Utilisation Officer of the Department, and R. F. Turnbull, Utilisation Officer of the Division of Forest Products. The report covering this investigation has been published by the Council as Pamphlet 41, "The Grading of Western Australian Timbers."

Detailed investigations were made at representative sawmills and metropolitan yards, and during the loading of a timber cargo at Bunbury. Interim conclusions were drawn up in eight progress reports, one for each field study, and all available data was then reconsidered, and final conclusions presented in the report. Tentative grading rules were developed for all sizes of Jarrah ordinary building and construction timber, Jarrah flooring, both strip and wood block, Jarrah and Karri mine lift guides, Karri cross arms and Jarrah paving blocks. Other specifications, particularly for Karri building timber, which had not been developed to the same extent, were given as trial specifications.

While some necessary modification of grading rules as first published is anticipated, it is hoped that the recommendations, as given in this report, will gradually lead to adoption of sound grading rules in the timber trade generally. Considerable progress has already been made (August, 1933) in the adoption of grades for Jarrah flooring. A State Sub-Committee of the Standards Association, representing principal producers and users, has adopted a set of grading rules for Jarrah flooring, based on the published report. These have been forwarded to the Main Timber Sectional Committee of the Standards Association, as recommended rules for publication as Australian standards. Further considera-

tion has also been given to the question of production of Karri cross arms, particularly for the United Kingdom. A full report, including a recommended specification, has been forwarded to London as a basis for consideration, aiming at a revised specification covering supplies to the British Post Office.

Lack of complete information on strength properties of our timbers has been a serious disadvantage in the past, and the Division of Forest Products is now carrying out comprehensive tests on Karri according to standard methods for testing small clear specimens. Supervision of collection of material was carried out by this Department. With the co-operation of State Saw Mills and Millars' Timber and Trading Company in carrying out felling, hauling, and conversion of selected trees, all material was placed free on board Bunbury, at no cost to the Division. All subsequent charges in connection with the tests are being borne by the C.S.I.R.

Owing to the limited time available, minor investigations only have been possible on seasoning and general utilisation. An electrical moisture content meter, purchased during the year, is proving of very great value as a means of rapidly determining the condition of timber with regard to seasoning. It is hoped that these instruments will soon become a standard item of equipment in the various timber yards. Already four other concerns in this State have an instrument.

Close touch has been maintained at all times with the Division of Forest Products.

#### (5)—ARBORICULTURE.

During the distributing season, which ended on 1st August, 1932, 146,595 trees were despatched from Hamel Nursery, a 56 per cent. increase on last year's figures, 34,694 were sold to the public, 2,141 were distributed free to public bodies, charitable institutions, etc., and 109,760 were supplied to the various Departmental plantations.

For general sale to private individuals and local authorities, *Eucalyptus cladocalyx* (Sugar Gum) proved the most popular tree, followed by *Pinus radiata*, *Pinus pinaster*, and *Eucalyptus ficifolia* (Red Flowering Gum).

### CHAPTER IV.

#### (1)—LEGISLATION.

##### *Forests Act Amendment Act, 1931.*

The term of the Forests Act Amendment Act, 1931, which excluded the whole of the sandalwood revenue from the provisions of Subsection (2) of Section 41 of the principal Act expired on the 30th June, 1932, and was not re-enacted.

##### *Forest Regulations.*

The following amendments were made to the Forest Regulations during the year:—

*Mallet Bark Stripping.*—Regulations 63 was amended to permit the stripping of mallet trees down to 10 inches in circumference, measured over the bark, at three feet from the ground. Before amendment, the regulations prohibited the stripping of trees of 15 inches or under in circumference measured at 4ft. 3in. from the ground.

*Sandalwood.*—The placing of orders for the pulling of sandalwood north of the 26th parallel of South latitude is now carried out under the direction of this department on similar lines to that followed in connection with the supply of wood from the Eastern Goldfields for export, and, in order to give effect to this arrangement, it was found necessary to cancel Regulations 53 and 54.

Under the agreement made between the Governments of Western Australia and South Australia and the sandalwood companies, provision is made for the payment of royalty on all sandalwood for export on a sliding scale, based on the selling price of the wood on the Chinese market, and it was therefore necessary to cancel Regulation 55 which provided for a fixed royalty.

*Royalty on Poles and Piles.*—The First Schedule to the Forest Regulations was amended to provide a revised scale of royalty rates on poles and piles. In fixing the new rates, careful consideration was given to the comparative market values of poles and piles of various lengths and by extending the schedule to include a wide range of sizes it has been possible, by calculating the cubic contents of each size, to remove a number of the anomalies which were present in the previous schedule. Although the rates now prescribed are lower than those previously applying, they are more in keeping with the pole and pile royalties in the other States of the Commonwealth.



## (2)—ADMINISTRATION.

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

(a) *Professional Division.*

Messrs. J. O'Donnell and W. G. Chandler, who have been serving a probationary period subsequent to qualifying for a diploma at the Australian Forestry School, were promoted to the position of "Forest Officer" (unattached).

Mr. F. Gregson was promoted from Officer-in-Charge of Seasoning Investigations to Utilisation Officer.

(b) *Field Staff.*

Three "C" Grade Assistant Foresters were promoted to Acting "C" Grade Foresters.

One Forest Guard was promoted to "C" Grade Assistant Forester.

Two "C" Grade Assistant Foresters were retired.

Eight "D" Grade Assistant Foresters were appointed and one was retired.

(c) *Head Office Staff.*

Two Draftsmen were obtained on loan from other departments.

## TRAINING OF STAFF.

One nominee is in his second year at the Australian Forestry School and one is in his first year there. Both students are taking the full Diploma course.

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It affords me great pleasure to place on record the loyal and efficient service given by all members of the staff during a difficult year, when the duties and responsibilities of all officers have been very considerably increased by the large amount of unemployment relief work handled by the Department.

Perth,  
September 18th, 1933.

S. L. KESSELL,  
Conservator of Forests.

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## APPENDIX 2a.

Exports of Timber, Tanning Barks, Sandalwood and Essential Oils for the Year ended 30th June, 1933.

| Item and Country of Destination.     | Quantity.   | Value.  | Item and Country of Destination. | Quantity. | Value.   |
|--------------------------------------|-------------|---------|----------------------------------|-----------|----------|
| <b>TIMBER—</b>                       | cubic feet. | £       | <b>WOOD MANUFACTURES—contd.</b>  |           | £        |
| <i>Dressed, N.E.I. :</i>             |             |         | <i>Other :</i>                   |           |          |
| Commonwealth of Australia            | 1,068       | 218     | Commonwealth of Australia        | ...       | 7,782    |
| United Kingdom ...                   | 30,405      | 2,919   | United Kingdom ...               | ...       | 4        |
| British Malaya ...                   | 1,614       | 153     | South African Union ...          | ...       | 43       |
| Ceylon ...                           | 3,364       | 292     | Netherlands East Indies ...      | ...       | 4        |
| Egypt ...                            | 45          | 4       | Sweden ...                       | ...       | 6        |
| Germany ...                          | 158         | 17      |                                  | ...       | 7,839    |
| Netherlands East Indies...           | 424         | 42      | Total, Wood Manufactures         | ...       | 80,332   |
| Sweden ...                           | 212         | 18      |                                  | ...       | 342,949  |
|                                      | 37,290      | 3,663   | <b>SANDALWOOD—</b>               | cwt.      |          |
| <i>Undressed, Railway Sleepers :</i> |             |         | British Malaya ...               | 1,979     | 2,623    |
| Commonwealth of Australia            | 176,734     | 16,329  | Ceylon ...                       | 300       | 450      |
| Ceylon ...                           | 172,462     | 17,967  | Hong Kong ...                    | 43,105    | 62,422   |
| Mauritius ...                        | 46,875      | 3,992   | India ...                        | 2,874     | 4,311    |
| South African Union ...              | 119,099     | 14,288  | China ...                        | 12,200    | 17,690   |
| Iraq ...                             | 91,422      | 10,971  | Japan ...                        | 620       | 930      |
| Portuguese East Africa ...           | 27,283      | 3,427   | Netherlands East Indies ...      | 280       | 420      |
|                                      | 633,875     | 66,974  |                                  | 61,358    | 88,846   |
| <i>Undressed, N.E.I. :</i>           |             |         | <b>TANNING BARK—</b>             |           |          |
| (a) Commonwealth of Australia        | 737,181     | 90,607  | Commonwealth of Australia        | 28,460    | 15,249   |
| United Kingdom ...                   | 429,334     | 53,442  | Germany ...                      | 21,333    | 10,041   |
| Africa, British East ...             | 20,646      | 2,568   | Italy ...                        | 1,522     | 634      |
| Ceylon ...                           | 32,083      | 3,963   | Netherlands ...                  | 17,922    | 7,428    |
| Cyprus ...                           | 1,360       | 164     |                                  | 69,237    | 33,352   |
| Hong Kong ...                        | 1,445       | 131     | <b>ESSENTIAL OILS—</b>           |           |          |
| India ...                            | 365         | 44      | <i>Non-Spirituous, N.E.I. :</i>  |           |          |
| Mauritius ...                        | 1,283       | 123     | Commonwealth of Australia        | ...       | 4,949    |
| New Zealand ...                      | 22,493      | 2,634   | United Kingdom ...               | ...       | 9,090    |
| Papua ...                            | 9,812       | 1,152   | Ceylon ...                       | ...       | 61       |
| South African Union ...              | 117,143     | 14,275  | Hong Kong ...                    | ...       | 2,051    |
| Egypt ...                            | 11,482      | 1,378   | India ...                        | ...       | 129      |
| Portuguese East Africa ...           | 56,868      | 6,906   | China ...                        | ...       | 1,986    |
| Belgium ...                          | 47,724      | 5,746   | France ...                       | ...       | 1,062    |
| China ...                            | 5,115       | 635     | Germany ...                      | ...       | 2,533    |
| Germany ...                          | 11,837      | 1,462   | Japan ...                        | ...       | 3,793    |
| Italy ...                            | 1,400       | 168     | Netherlands East India ...       | ...       | 588      |
| Netherlands ...                      | 56,804      | 6,582   |                                  | ...       | 26,242   |
|                                      | 1,564,375   | 191,980 | <i>Eucalyptus :</i>              |           |          |
| Total, Timber Exports ...            | ...         | 262,617 | British Malaya ...               | ...       | 49       |
| <b>WOOD MANUFACTURES—</b>            |             |         | Philippine Islands ...           | ...       | 40       |
| <i>Casks and Shooks :</i>            |             |         |                                  | ...       | 89       |
| (b) Commonwealth of Australia        | ...         | 64,688  | Total, all Exports               | ...       | £491,478 |
|                                      | ...         | 64,688  |                                  |           |          |
| <i>Furniture :</i>                   |             |         |                                  |           |          |
| Commonwealth of Australia            | ...         | 7,745   |                                  |           |          |
| United Kingdom ...                   | ...         | 40      |                                  |           |          |
| British Malaya ...                   | ...         | 20      |                                  |           |          |
|                                      | ...         | 7,805   |                                  |           |          |

(a) Value includes £1,140 of staves for which no quantity is shown. (b) Includes empty returns.

## APPENDIX 2b.

Imports of Timber, Tanning Substances and Essential Oils for the Year ended 30th June, 1933.

| Item and Country of Origin.           | Quantity.   | Value. | Item and Country of Origin.           | Quantity. | Value.         |
|---------------------------------------|-------------|--------|---------------------------------------|-----------|----------------|
| <b>TIMBER—</b>                        | cubic feet. | £      | <b>WOOD MANUFACTURES—cont'd.</b>      |           |                |
| <i>Timber, Dressed—</i>               |             |        | <i>Plywood and Veneers :</i>          | No.       | £              |
| <i>Architraves, Mouldings, etc. :</i> |             |        | Commonwealth of Australia ... ..      | ...       | 14,903         |
| Commonwealth of Australia ... ..      | ...         | 1,339  | United Kingdom ... ..                 | ...       | 135            |
| <i>Tongued and Grooved :</i>          |             |        | Japan ... ..                          | ...       | 505            |
| United Kingdom ... ..                 | 1           | 1      | United States of America ... ..       | ...       | 150            |
| British Malaya ... ..                 | 42          | 25     | ...                                   | ...       | 15,693         |
| Norway ... ..                         | 3,363       | 262    | <i>Spokes, Rims, and Felloes :</i>    |           |                |
| Sweden ... ..                         | 18,732      | 1,420  | Commonwealth of Australia ... ..      | 17,272    | 1,285          |
| ...                                   | 22,138      | 1,708  | United States of America ... ..       | 37        | 76             |
| <i>Timber Dressed, N.E.I. :</i>       |             |        | ...                                   | 17,309    | 1,361          |
| (a) Commonwealth of Australia ... ..  | 1,025       | 495    | <i>Tool Handles (including Axe) :</i> |           |                |
| (b) United Kingdom ... ..             | 4           | 9      | Commonwealth of Australia ... ..      | ...       | 8,062          |
| Germany ... ..                        | ...         | 20     | United Kingdom ... ..                 | ...       | 204            |
| (c) United States of America ... ..   | 723         | 297    | Canada ... ..                         | ...       | 756            |
| ...                                   | ...         | 821    | Germany ... ..                        | ...       | 3              |
| <i>Timber Undressed—</i>              |             |        | United States of America ... ..       | ...       | 1,542          |
| (d) <i>Timber for making Boxes :</i>  |             |        | ...                                   | ...       | 10,567         |
| Commonwealth of Australia ... ..      | ...         | 552    | <i>Wood Manufactures, N.E.I. :</i>    |           |                |
| Canada ... ..                         | 235,768     | 10,320 | Commonwealth of Australia ... ..      | ...       | 22,945         |
| British Malaya ... ..                 | 10,896      | 901    | United Kingdom ... ..                 | ...       | 913            |
| New Zealand ... ..                    | ...         | 394    | Canada ... ..                         | ...       | 27             |
| Netherlands ... ..                    | 188         | 198    | New Zealand ... ..                    | ...       | 153            |
| Norway ... ..                         | 13,596      | 1,075  | Austria ... ..                        | ...       | 8              |
| Sweden ... ..                         | 28,668      | 2,537  | Czecho Slovakia ... ..                | ...       | 5              |
| United States of America ... ..       | ...         | 48     | Finland ... ..                        | ...       | 1              |
| ...                                   | ...         | 16,025 | France ... ..                         | ...       | 76             |
| <i>Timber Undressed, N.E.I.—</i>      |             |        | Germany ... ..                        | ...       | 126            |
| Commonwealth of Australia ... ..      | 97,695      | 17,097 | Italy ... ..                          | ...       | 1              |
| Canada ... ..                         | 49,891      | 4,230  | Japan ... ..                          | ...       | 101            |
| New Zealand ... ..                    | 6,301       | 1,583  | Latvia ... ..                         | ...       | 4,464          |
| Noumea ... ..                         | 564         | 152    | Lithuania ... ..                      | ...       | 7              |
| Philippine Islands ... ..             | 3,819       | 1,086  | Norway ... ..                         | ...       | 1              |
| Siam ... ..                           | 44          | 21     | Spain ... ..                          | ...       | 4              |
| Sweden ... ..                         | 1,349       | 121    | Sweden ... ..                         | ...       | 6,298          |
| West Indies, Cuba ... ..              | 51          | 47     | Switzerland ... ..                    | ...       | 45             |
| United States of America ... ..       | 55,735      | 7,453  | United States of America ... ..       | ...       | 128            |
| ...                                   | 215,449     | 31,790 | ...                                   | ...       | 35,303         |
| <b>WOOD MANUFACTURES—</b>             |             |        | <b>Total Timber Imports ...</b>       | ...       | <b>197,916</b> |
| <i>Barrels and Casks :</i>            |             |        | <b>TANNING BARK—</b>                  | cwt.      |                |
| Commonwealth of Australia ... ..      | ...         | 55,578 | Commonwealth of Australia ... ..      | 4,185     | 2,287          |
| <i>Clothes Pegs :</i>                 |             |        | <b>TANNING EXTRACTS—</b>              |           |                |
| Commonwealth of Australia ... ..      | ...         | 861    | Commonwealth of Australia ... ..      | ...       | 218            |
| United States of America ... ..       | ...         | 3      | United Kingdom ... ..                 | ...       | 458            |
| ...                                   | ...         | 864    | British Borneo ... ..                 | ...       | 215            |
| <i>Furniture :</i>                    |             |        | British Malaya ... ..                 | ...       | 44             |
| Commonwealth of Australia ... ..      | ...         | 24,820 | India ... ..                          | ...       | 184            |
| United Kingdom ... ..                 | ...         | 872    | South African Union ... ..            | ...       | 171            |
| British Malaya ... ..                 | ...         | 6      | Argentina ... ..                      | ...       | 507            |
| South African Union ... ..            | ...         | 1      | France ... ..                         | ...       | 26             |
| Czecho Slovakia ... ..                | ...         | 1      | Germany ... ..                        | ...       | 15             |
| Estonia ... ..                        | ...         | 128    | Germany... ..                         | ...       | 106            |
| France ... ..                         | ...         | 26     | Japan ... ..                          | ...       | 20             |
| Germany ... ..                        | ...         | 106    | Sweden ... ..                         | ...       | 53             |
| Japan ... ..                          | ...         | 20     | United States of America ... ..       | ...       | 834            |
| Sweden ... ..                         | ...         | 53     | ...                                   | ...       | 26,867         |
| United States of America ... ..       | ...         | 834    | ...                                   | ...       | 2,616          |
| ...                                   | ...         | 26,867 | ...                                   | ...       | 2,616          |

(a) Value includes £146 for which no quantity is shown.

(b) Value includes £3 for which no quantity is shown.

(c) Value includes £83 for which no quantity is shown.

(d) Value includes £994 for timber imported via Commonwealth States and for which no quantity is shown.

## APPENDIX 2b—continued.

| Item and Country of Origin.      | Quantity. | Value. | Item and Country of Origin.     | Quantity. | Value.  |
|----------------------------------|-----------|--------|---------------------------------|-----------|---------|
| ESSENTIAL OILS—                  |           |        | ESSENTIAL OILS—continued—       |           |         |
| Commonwealth of Australia ... .. | ...       | £ 723  | Italy ... ..                    | ...       | £ 391   |
| United Kingdom ... ..            | ...       | 171    | Japan ... ..                    | ...       | 1,252   |
| British Malaya ... ..            | ...       | 1      | Netherlands ... ..              | ...       | 112     |
| British West Indies ... ..       | ...       | 3      | Netherlands East Indies ... ..  | ...       | 2       |
| Ceylon ... ..                    | ...       | 344    | Paraguay ... ..                 | ...       | 3       |
| India ... ..                     | ...       | 29     | Russia ... ..                   | ...       | 1       |
| Africa French, West ... ..       | ...       | 43     | Spain ... ..                    | ...       | 4       |
| China ... ..                     | ...       | 107    | Switzerland ... ..              | ...       | 5       |
| France ... ..                    | ...       | 126    | United States of America ... .. | ...       | 98      |
| Germany ... ..                   | ...       | 5      |                                 |           |         |
| Hungary ... ..                   | ...       | 1      |                                 |           |         |
|                                  |           |        | Total All Imports ...           |           | 3,421   |
|                                  |           |        |                                 |           | 206,240 |

## APPENDIX 2c.

## Summary of Exports of Forest Produce since 1836.

| Year.                 | Timber.  |         | Sandalwood. |        | Year.                 | Timber.                 |             | Sandalwood. |            | Tanning Bark. | Essential Oils.* |
|-----------------------|----------|---------|-------------|--------|-----------------------|-------------------------|-------------|-------------|------------|---------------|------------------|
|                       | cub. ft. | Value.  | Tons.       | Value. |                       | cub. ft.                | Value.      | Tons.       | Value.     | Value.        | Value.           |
| 1836 <sup>a</sup> ... | 10,000   | £ 2,500 | ...         | £      | 1885 ...              | 848,150                 | 67,850      | 4,527       | £ 36,216   | £             | £                |
| 1837 ...              | ...      | ...     | ...         | ...    | 1886 ...              | 626,150                 | 50,092      | 3,451       | 27,450     | ...           | ...              |
| 1838 ...              | ...      | ...     | ...         | ...    | 1887 ...              | 354,800                 | 28,384      | 4,317       | 34,533     | ...           | ...              |
| 1839 ...              | ...      | ...     | ...         | ...    | 1888 ...              | 525,750                 | 42,060      | 4,470       | 33,525     | ...           | ...              |
| 1840 ...              | ...      | ...     | ...         | ...    | 1889 ...              | 788,500                 | 63,080      | 5,385       | 57,465     | ...           | ...              |
| 1841 ...              | ...      | ...     | ...         | ...    | 1890 ...              | 1,172,200               | 82,052      | 5,136       | 51,355     | ...           | ...              |
| 1842 ...              | ...      | ...     | ...         | ...    | 1891 ...              | 1,273,950               | 89,179      | 3,760       | 37,600     | ...           | ...              |
| 1843 ...              | ...      | ...     | ...         | ...    | 1892 ...              | 1,082,650               | 78,419      | 5,716       | 42,870     | ...           | ...              |
| 1844 ...              | ...      | ...     | ...         | ...    | 1893 ...              | 512,950                 | 33,388      | 3,893       | 32,160     | ...           | ...              |
| 1845 ...              | ...      | ...     | ...         | ...    | 1894 ...              | 1,063,700               | 74,804      | 2,784       | 23,430     | ...           | ...              |
| 1846 ...              | 2,550    | 255     | 4           | 40     | 1895 ...              | 1,255,250               | 88,146      | 3,851       | 30,863     | ...           | ...              |
| 1847 ...              | 12,200   | 1,120   | 32          | 320    | 1896 ...              | 1,545,600               | 116,420     | 6,848       | 65,800     | ...           | ...              |
| 1848 ...              | 3,350    | 333     | 1,335       | 4,444  | 1897 ...              | 2,393,300               | 192,451     | 9,852       | 49,480     | ...           | ...              |
| 1849 ...              | ...      | ...     | ...         | 13,353 | 1898 ...              | 4,086,150               | 326,195     | 4,349       | 31,812     | ...           | ...              |
| 1850 ...              | 10,500   | 1,048   | ...         | ...    | 1899 ...              | 6,913,550               | 553,198     | 4,084       | 29,719     | ...           | ...              |
| 1851 ...              | 1,250    | 268     | 219         | 1,593  | 1900 ...              | 5,725,400               | 458,461     | 5,095       | 39,038     | ...           | ...              |
| 1852 ...              | 7,050    | 806     | ...         | ...    | 1901 ...              | 7,150,600               | 572,354     | 8,864       | 73,931     | ...           | ...              |
| 1853 ...              | 52,200   | 5,220   | ...         | ...    | 1902 ...              | 6,256,750               | 500,533     | 7,995       | 49,094     | ...           | ...              |
| 1854 ...              | 58,500   | 7,023   | ...         | ...    | 1903 ...              | 7,748,450               | 619,705     | 4,406       | 37,913     | ...           | ...              |
| 1855 ...              | 76,900   | 12,076  | ...         | ...    | 1904 ...              | 8,072,300               | 654,949     | 4,510       | 25,417     | 359           | ...              |
| 1856 ...              | 70,500   | 9,671   | ...         | ...    | 1905 ...              | 8,709,500               | 689,943     | 5,521       | 38,817     | 32,376        | ...              |
| 1857 ...              | 69,200   | 9,449   | 280         | 2,524  | 1906 ...              | 8,830,700 <sup>c</sup>  | 708,993     | 8,848       | 70,958     | 154,087       | ...              |
| 1858 ...              | 29,250   | 2,340   | 745         | 7,455  | 1907 ...              | 6,409,550 <sup>c</sup>  | 511,923     | 9,212       | 65,999     | 140,720       | ...              |
| 1859 ...              | 67,250   | 6,051   | 1,273       | 17,259 | 1908 ...              | 9,869,500 <sup>c</sup>  | 813,591     | 9,564       | 76,668     | 98,773        | ...              |
| 1860 ...              | 54,800   | 4,982   | 1,687       | 16,360 | 1909 ...              | 10,830,450 <sup>c</sup> | 867,419     | 4,805       | 37,456     | 79,934        | ...              |
| 1861 ...              | 27,750   | 2,497   | 2,558       | 24,945 | 1910 ...              | 12,074,100 <sup>c</sup> | 972,698     | 8,223       | 70,775     | 59,633        | ...              |
| 1862 ...              | 68,800   | 7,151   | 2,393       | 21,541 | 1911 ...              | 12,449,500 <sup>c</sup> | 986,341     | 6,907       | 65,506     | 93,733        | ...              |
| 1863 ...              | 32,900   | 2,963   | 2,807       | 25,541 | 1912 ...              | 11,297,100 <sup>c</sup> | 908,396     | 3,154       | 27,553     | 83,470        | ...              |
| 1864 ...              | 58,300   | 5,508   | 2,724       | 25,265 | 1913 ...              | 13,619,850 <sup>c</sup> | 1,089,481   | 6,260       | 47,589     | 49,094        | ...              |
| 1865 ...              | 183,950  | 15,693  | 1,686       | 24,520 | 1914 <sup>d</sup> ... | 6,279,750 <sup>c</sup>  | 502,153     | 4,702       | 39,800     | 47,377        | ...              |
| 1866 ...              | 85,650   | 6,349   | 2,965       | 13,490 | 1915 <sup>e</sup> ... | 9,968,500 <sup>c</sup>  | 808,392     | 8,375       | 73,926     | 18,197        | ...              |
| 1867 ...              | 56,750   | 4,541   | 2,305       | 18,442 | 1916 <sup>e</sup> ... | 5,432,100               | 441,991     | 6,271       | 61,331     | 6,127         | 5                |
| 1868 ...              | 8,000    | 638     | 3,256       | 26,045 | 1917 <sup>e</sup> ... | 3,890,650               | 310,893     | 7,230       | 10,208     | 381           | 381              |
| 1869 ...              | 179,900  | 14,273  | 4,124       | 32,998 | 1918 <sup>e</sup> ... | 3,436,250               | 274,141     | 6,504       | 81,834     | 1,102         | 1,102            |
| 1870 ...              | 157,200  | 17,551  | 6,112       | 48,890 | 1919 <sup>e</sup> ... | 4,135,750               | 344,119     | 8,998       | 18,959     | 2,060         | 2,060            |
| 1871 ...              | 218,500  | 15,304  | 3,366       | 26,926 | 1920 <sup>e</sup> ... | 5,065,300               | 487,666     | 14,355      | 117,072    | 3,987         | 3,987            |
| 1872 ...              | 37,000   | 2,590   | 3,942       | 31,536 | 1921 <sup>e</sup> ... | 9,816,250               | 1,162,735   | 10,839      | 240,579    | 18,875        | 3,704            |
| 1873 ...              | 68,150   | 4,771   | 6,292       | 81,536 | 1922 <sup>e</sup> ... | 8,309,750               | 1,063,475   | 3,990       | 181,801    | 23,073        | 10,107           |
| 1874 ...              | 345,600  | 24,192  | 7,057       | 62,916 | 1923 <sup>e</sup> ... | 7,911,310               | 1,009,831   | 7,623       | 54,769     | 15,328        | 6,878            |
| 1875 ...              | 342,350  | 23,985  | 6,646       | 70,572 | 1924 <sup>e</sup> ... | 11,126,861              | 1,379,022   | 14,081      | 102,912    | 21,161        | 20,075           |
| 1876 ...              | 219,050  | 23,743  | 6,577       | 66,465 | 1925 <sup>e</sup> ... | 11,544,303              | 1,491,925   | 6,243       | 348,713    | 29,606        | 39,877           |
| 1877 ...              | 336,150  | 36,979  | 4,247       | 65,772 | 1926 <sup>e</sup> ... | 12,001,384              | 1,533,030   | 7,771       | 186,775    | 40,136        | 42,057           |
| 1878 ...              | 580,900  | 63,902  | 4,675       | 81,851 | 1927 <sup>e</sup> ... | 12,580,262              | 1,659,876   | 6,821       | 238,203    | 15,056        | 47,819           |
| 1879 ...              | 627,250  | 69,742  | 4,667       | 35,064 | 1928 <sup>e</sup> ... | 10,384,784              | 1,274,482   | 4,829       | 199,754    | 15,815        | 26,454           |
| 1880 ...              | 662,550  | 66,252  | 5,197       | 35,001 | 1929 <sup>e</sup> ... | 7,635,237               | 967,038     | 7,582       | 147,426    | 27,662        | 39,131           |
| 1881 ...              | 792,750  | 79,277  | 7,716       | 51,970 | 1930 <sup>e</sup> ... | 6,579,743               | 812,112     | 943         | 225,208    | 35,850        | 63,307           |
| 1882 ...              | 936,500  | 93,650  | 9,605       | 77,165 | 1931 <sup>e</sup> ... | 4,127,856               | 533,997     | 1,606       | 40,628     | 40,628        | 77,510           |
| 1883 ...              | 997,000  | 79,760  | 7,031       | 96,050 | 1932 <sup>e</sup> ... | 3,062,673               | 447,188     | 1,386       | 43,790     | 35,333        | 56,170           |
| 1884 ...              | 861,700  | 68,936  | 2,620       | 56,250 | 1933 <sup>e</sup> ... | 2,235,340               | 342,949     | 3,068       | 40,546     | 42,016        | 59,301           |
|                       |          |         |             | 20,960 | TOTAL ...             | 307,720,803             | £29,877,002 | 412,507     | £4,943,585 | £1,324,948    | £530,251         |

<sup>a</sup> The exports up to the year 1834 consisted only of supplies to shipping of which no record is kept. <sup>b</sup> Not available. <sup>c</sup> Approximate figures only. <sup>d</sup> Six months ended 30th June. <sup>e</sup> Year ended 30th June. \* Principally Sandalwood Oil.

## APPENDIX III.

## TIMBER INDUSTRY REGULATION ACT, 1926.

*Annual Report, 1932.*

Eighty inspections were carried out and thirty-three mills, working during the year, were visited by the inspector.

Notifiable accidents reported for the year numbered 201 or 16.68 to every 100 person employed. These figures are slightly higher than those of the previous year, when the number of accidents per 100 employees was 15.14.

One fatal accident occurred in which a mill employee engaged in unloading logs was crushed against the log landing by a log rolling off the truck at which he was working.

The average period of incapacity of the injured persons was 24.7 days per person.

An attempt has been made since July, 1930, to determine the personal cause of accidents, and as a result of the inspector's inquiries in this direction, it has been found that the majority of the accidents are caused as the result of lack of care and concentration on the part of the injured person or other employees.

Returns as listed hereunder have been prepared, but under the present circumstances the cost of printing these in this report is not considered justified.

- (1) Number of notifiable accidents reported in accordance with Section 14 of the Timber Industry Regulation Act, according to months, and indicating the nationality and age of the person injured, the period of incapacity, the number of occasions on which the first aid outfit was used, and the monthly fatigue symbol during the year ended 31st December, 1932.
- (2) The number of notifiable accidents reported during the year 1932, according to months and days of the week on which the accidents happened.
- (3) By months, the time at which the notifiable accidents occurred.
- (4) The number of hours worked on the day and up to the times of sustaining the accidents by persons injured.
- (5) The number of accidents reported during the year 1932, classified according to the cause of accident and location of injury.
- (6) The number of accidents reported during the year 1932, classified according to the cause of accident and nature of injury.
- (7) The number of accidents reported during the year 1932, classified according to the location and nature of injury.
- (8) The personal cause of the accidents reported during the year ended 31st December, 1932, as determined by the district inspector.

Perth,  
15th September, 1933.

S. L. KESSELL,  
Controlling Officer.