# CHAPTER XXIII

# FORESTRY

NOTE.—For further details on subjects dealt with in this chapter *see* the annual bulletins *Primary Industries, Part II.—Non-Rural Industries and Value of Production,* and *Secondary Industries* (sawmills, etc., operations).

All values of Australian oversea trade shown throughout this chapter are expressed as £A. f.o.b., port of shipment. The export table on page 1119 relates to exports of Australian produce, but quantities and values quoted in the text sometimes include re-exports, the amounts involved, however, being generally small.

## § 1. Source of Statistics

Statistics relating to forestry are, in general, provided by the various authorities concerned with forestry administration. In each State, suitable areas of Crown land have been reserved for forestry purposes, either as State forests or other reserves, and the administration of these is the responsibility of the respective State Government forestry authorities. In addition, in some States, areas of forests on Crown lands dedicated as national parks and the like are administered by government departments other than the forestry authorities. There are timber resources on private land in each State, but details concerning these areas and production therefrom are not complete for all States. Forestry activities in the Northern Territory and the Australian Capital Territory are administered by the Commonwealth Government.

Particulars of forested areas contained in this chapter have been collected by the Statisticians of the several States, mainly from information provided by the State forestry authorities. The Forestry and Timber Bureau of the Commonwealth has provided figures for the Northern Territory and the Australian Capital Territory and, in addition, has made available certain other data.

Statistics of timber and by-products have been compiled from the annual factory collections undertaken by the Statisticians in the several States. Figures of production of gums, resins and tanning barks have been provided by the State forestry authorities.

Data of imports and exports of forest products and timber and timber products have been compiled in the Commonwealth Bureau of Census and Statistics as part of the statistics of oversea trade.

The figures shown relate, in general, to years ended 30th June.

Forested areas shown in this chapter relate to areas administered by the State or Commonwealth authorities, or to those reserved by government legislation. They are not based on any inventory of forest resources using standard and uniform definitions throughout Australia. It should be stressed, therefore, that the figures are not comparable between States owing to the lack of uniformity in the definition of a forest.

## § 2. Forestry in Australia

1. **Objects of Forestry.**—The main object of forestry authorities is to manage the forests of the country in a manner that will provide the maximum benefits, both direct and indirect. Direct benefits include the provision of essential commercial commodities such as structural timber, pulpwood, plywood, veneers, firewood, bark products, tars, oils and resins. Indirect benefits include protection of soil and stock from wind and exposure, regulation of stream flow, provision of recreational facilities, and aesthetic effects. Forestry also aims at improving existing forests and woodlands by properly controlled exploitation, by protection from such destructive agencies as fire and insect attack, and by inducing regeneration where it is desirable. The provision of a partial tree cover on denuded lands where this cover is necessary for protective purposes, and a complete cover when the land is better under forest than under any other land use, are further aims of forestry.

2. **General Account of Forests and Timbers.**—(i) *General.* The area of land in Australia suitable for the production of commercial timber as a primary crop is very small in comparison with the size of the continent. Only 6 per cent. of the total land area supports tree growth as the dominant vegetation. This area includes large tracts of mallee and other land carrying timber either too low in quality or too inaccessible to be exploited economically. Hardwoods cover 97 per cent. of the total forested area, and approximately 94 per cent. of the hardwood area is occupied by eucalypts.

(ii) *Eucalypts.* The genus *Eucalyptus* is remarkable in that it includes over 600 species ranging in size from the mighty forest giants, mountain ash (*E. regnans*) of Victoria and karri (*E. diversicolor*) of Western Australia, down to the small mallee species which inhabit vast areas of the inland. The habitats range from the dry inland areas to the high mountain areas in the Australian Alps, from areas with the annual rainfall as low as 10 inches to those where it is 250 inches. Of the 600 species, only about 100 are used for sawmilling, and not more than 40 of these are exploited extensively.

The better class of eucalypt forest is concentrated mainly in the higher rainfall areas such as the east coast, the highlands of southern New South Wales, Victoria and Tasmania and the south-western corner of Western Australia. The more important species include blackbutt (*E. pilularis*), tallowwood (*E. microcorys*), flooded gum (*E. grandis*) and red mahogany (*E. resinifera*) of New South Wales and Queensland, alpine ash (*E. delegatensis*) of New South Wales, Victoria and Tasmania, mountain ash (*E. regnans*), messmate (*E. obliqua*) and blue gum (*E. bicostata*) of Victoria and Tasmania, and karri (*E. diversicolor*) of Western Australia. For height and grandeur, mountain ash and karri are unequalled among the hardwoods of the world, and are excelled only by a few North American softwood species.

In the coastal regions with lower rainfall, the eucalypt forests contain many durable species such as the ironbarks, grey gums and bloodwoods of the east coast and jarrah (*E. marginata*) and tuart (*E. gomphocephala*) of Western Australia. The spotted gum (*E. maculata*) occurring in New South Wales and Queensland is another example.

Along most of the inland streams and adjacent flood-plains, there are riverain forests consisting mainly of river red gum (*E. camaldulensis*), a very durable hardwood which has supplied large quantities of sawn timber, railway sleepers and fence posts.

Eucalypts also occur in open forest and savannah woodland formations in areas receiving a reliable annual rainfall of about 10 to 20 inches per annum, as on the goldfields of Western Australia where salmon gum (*E. sa'monophloia*), brown mallet (*E. astringens*) and wandoo (*E. wandoo*) occur. These forests are of considerable value for firewood, as mining timbers and for fencing. Minor forest products such as sandalwood, tan bark, essential oils, etc., also come from isolated areas in this type of country, and in the more arid areas.

The table below shows the quantities of timber sawn from the main types of eucalypts in 1960–61.

SAWN TIMBER PRODUCED FROM EUCALYPTS(*a*), AUSTRALIA, 1960-61

(*Source:* Forestry and Timber Bureau)

('000 super. ft.)

| Species | Sawn timber |
|---|---|
| Messmate (*E. obliqua*) | 230,071 |
| Blackbutt (*E. pilularis*) | 220,239 |
| Alpine ash (*E. delegatensis*) | 152,029 |
| Jarrah (*E. marginata*) | 148,014 |
| Karri (*E. diversicolor*) | 39,302 |
| Red gum (*E. camaldulensis*) | 38,995 |
| Mountain ash (*E. regnans*) | 37,601 |
| Other eucalypts(*b*) | 201,753 |
| **Total, Eucalypts** | **1,068,004** |

(*a*) Includes the volume of sawn sleepers and the sawn equivalent of ply and veneer. (*b*) Separate figures are not available for the production of other species, but the probable order of importance of the next three eucalypt species is: spotted gum (*E. maculata*), tallowwood (*E. microcorys*) and silvertop ash (*E. sieberiana*).

(iii) *Other Hardwoods.* Hardwood genera other than *Eucalyptus* cover a comparatively small portion of the forested land in Australia (some 6 per cent.), but these areas provide a great variety of timbers suitable for a multitude of uses. There are two basic types of forest containing supplies of hardwoods other than eucalypts, namely, the tropical and sub-tropical rainforests of coastal New South Wales and Queensland, and the temperate rainforests of southern Victoria and Tasmania, both of which yield species known collectively as rainforest or brushwood species. The total volume of brushwood species produced in 1960–61 was 69,764,000 super. feet, i.e. less than seven per cent. of the total hardwood cut in Australia.

The tropical and subtropical rainforest along the eastern coast of Australia contains a large number of different species. Tropical rainforest occurs in northern Queensland in the vicinity of Cairns and on the Atherton Tableland, providing such well-known cabinet woods as Queensland maple (*Flindersia brayleana*), Queensland walnut (*Endiandra palmerstonii*) and the silky oaks. The subtropical rainforest found in southern Queensland and northern New South Wales yields the tulip oaks, crab apple (*Shizomeria ovata*) and white beech (*Gmelina leichhardtii*). Coachwood (*Ceratopetalum apetalum*) and sassafras (*Doryphora sassafras*) occur in regions to the south near Dorrigo and have yielded valuable timber produce for many years.

Turpentine (*Syncarpia glomulifera*), an excellent harbour pile timber resistant to marine borer attack, and brush box (*Tristania conferta*), a superior structural decking timber, are found in association with some eucalypts in the wetter rainfall areas on the north coast of New South Wales and in southern Queensland.

Temperate rainforest which is to be seen in southern parts of Victoria and western Tasmania consists mainly of myrtle beech (*Nothofagus cunninghamii*), but produces also southern sassafras (*Atherosperma moschata*) and blackwood (*Acacia melanoxylon*).

(iv) *Softwoods.* The most important species of softwood is a conifer, the cypress pine (*Callitris hugelii*). Although this species is widely distributed throughout Australia, the main cypress pine forests of commercial value occur in New South Wales and southern Queensland west of the Great Dividing Range, covering about 2.5 per cent. of the total forest area of Australia. The trees are comparatively small, but the timber has particular value owing to its durability and resistance to termites. It is suitable for use as scantlings, flooring, linings, weatherboards, poles and posts. As much of the area originally covered by cypress pine has been cleared for wheat farming and grazing, the production from the remaining State forests is now strictly regulated to ensure a continuous supply. The volume of cypress pine cut in 1960–61 was approximately 72.0 million super. feet, but in 1961–62 this cut dropped to approximately 66.5 million super. feet.

Previously the most important softwood resources of Australia were the forests of hoop pine (*Araucaria cunninghamii*) in southern Queensland and New South Wales. The greater part of the original hoop pine forests has been exploited, but considerable areas have been replanted with this species in Queensland and, to a lesser extent, in New South Wales. Hoop pine also occurs in subtropical rainforest, in association with tulip oaks, crab apple, white beech, coachwood and sassafras.

Other native softwoods which have played a useful but minor part in the Australian timber industry include bunya and kauri pines (*Araucaria bidwillii* and *Agathis palmerstonii*) of Queensland, and celery top, Huon and King William pines (*Phyllocladus asplenifolius, Dacrydium franklinii* and *Athrotaxis selaginoides*) of Tasmania. Kauri pine is found in the tropical rainforest of northern Queensland in association with non-eucalypt hardwoods, while bunya pine occurs in the subtropical rainforests. In the temperate rainforests of Tasmania, celery top, Huon and King William pines are found in association with myrtle beech, southern sassafras and blackwood. Supplies of Huon and King William pines are now almost exhausted.

3. **Forested Areas.**—(i) *Extent of Forests.* Information on Australian forest resources is imperfect. It is not possible to give a reliable estimate of the forest area needed to meet future demands because of the unknown variables involved, in particular, the yield capacity per acre, future consumption of different classes of timber, and the future population.

According to estimates made for the Eighth British Commonwealth Forestry Conference held in Kenya in 1962, the total area of forest in Australia is 512.2 million acres, or about 27 per cent. of the total land area of the continent. However, about four-fifths of this area carries only sparse stunted tree growth. Only 19.2 million acres of the total forested area consists of residual prime native forest. It has not been possible to show the distribution of the forested areas by States, but other particulars are set out in the table below.

**CLASSIFICATION OF FOREST AREA(*a*): AUSTRALIA**

(*Source:* Forestry and Timber Bureau)

**('000 acres)**

| Type of forest | Area |
|---|---|
| **LANDS** | |
| Accessible forests— | |
| Productive forests in use— | |
| Coniferous (softwood) | 492 |
| Non-coniferous (broadleaved) | 24,352 |
| Mixed woods | 5,636 |
| Open areas | 245 |
| Total, Productive Forests in Use | 30,725 |
| Productive forests not in use | (*b*) 31,961 |
| Unproductive accessible forests | (*c*) 257,687 |
| *Total, Accessible Forests* | (*d*) *320,373* |
| Inaccessible forests | 191,795 |
| **Total, Forested Area** | **512,168** |

NOTE.—For footnotes, *see* next page.

CLASSIFICATION OF FOREST AREA(*a*): AUSTRALIA—*continued*

(*Source: Forestry and Timber Bureau*)

('000 acres)

| Type of forest | Area |
|---|---|
| OWNERSHIP OF ACCESSIBLE FORESTS | |
| Publicly-owned forests— | |
| State forests | 23,534 |
| Other forests | 150,329 |
| *Total, Publicly-owned Forests* | *173,863* |
| Privately-owned forests | 145,537 |
| Ownership not yet determined | 973 |
| **Total, Accessible Forests** | **320,373** |

(*a*) Based on the 1960 classification of forests. (*b*) Includes approximately 25 million acres capable of producing fuelwood only. (*c*) This area carries only sparse, stunted trees. (*d*) Includes approximately 256 million acres of land carrying only stunted trees.

(ii) *Forest Reservations.* According to statements furnished by State and Commonwealth authorities, reservations of forest areas in Australia as at 30th June, 1962, totalled 39.0 million acres, of which 23.5 million acres were dedicated State forests and 15.5 million acres were timber and other reserves. The distribution of those areas is shown by States in the following table.

AREA OF FOREST RESERVATIONS, 30TH JUNE, 1962

('000 acres)

| State or Territory | State forests | Timber reserves (Forest Acts) | Other reserves (*a*) | Total |
|---|---|---|---|---|
| New South Wales | 6,664 | 1,402 | (*b*) 1,535 | 9,601 |
| Victoria | 4,868 | (*c*) 861 | (*b*) 368 | 6,097 |
| Queensland | 5,170 | 3,033 | 928 | 9,131 |
| South Australia | 277 | 1 | 760 | 1,038 |
| Western Australia | 4,348 | (*d*) 2,561 | 321 | 7,230 |
| Tasmania | (*e*) 2,154 | 137 | (*f*) 1,207 | 3,498 |
| Northern Territory | .. | 9 | (*g*) 2,272 | 2,281 |
| Australian Capital Territory | .. | .. | (*h*) 131 | 131 |
| **Australia** | **23,481** | **8,004** | **7,522** | **39,007** |

(*a*) Includes national parks and scenic reserves. (*b*) Reserved under Lands Acts. (*c*) Includes 151,000 acres reserved under Lands Acts. (*d*) Includes 775,000 acres reserved under Lands Acts. (*e*) Includes 465,000 acres of State forests under pulpwood concessions and 266,000 acres under exclusive and general forestry permits. (*f*) Includes 612,000 acres of Crown land under pulpwood concessions and 360,000 acres of Crown land under exclusive forestry permits. (*g*) Comprises a fauna and flora reserve on Coburg Peninsula (352,000 acres), land covered by pastoral leases (820,000 acres) and land within Welfare Reserves (1,100,000 acres). (*h*) Forest land not specifically reserved.

A considerable proportion of the permanently reserved areas is in inaccessible mountainous country, and many of the forests contain a mixture of species, only some of which are at present of commercial value. Much of the area consists of inferior forest, and a large proportion of the whole has been seriously degraded by recurrent fires. Moreover, the indigenous forest does not contain adequate supplies of softwood, and Australia's requirements have had to be met largely by imports.

(iii) *Plantations.* As a result of the planned policy of the forest services and of several private commercial organizations, the area of softwood plantations, mainly of exotic species, is steadily increasing. It was natural that this aspect of forestry should receive earliest attention in South Australia, as this is the State most poorly endowed with natural forest. South Australia now has a larger area of planted softwoods than any other State in Australia, and for some years has been exploiting considerable quantities of timber from these plantations. The total production is now over 200 million super. feet per annum and is expected to be increased substantially during the next decade. Production is also increasing in the other States, and the thinnings from their plantations are already supplying a significant volume of timber.

New areas are usually planted during the winter. Data are now compiled as at 30th September each year, so that, in the main, 1962 plantings are included in the figures of softwood plantations shown in the following table.

**SOFTWOOD PLANTATIONS, 30TH SEPTEMBER, 1962**

(*Source:* Forestry and Timber Bureau)

**(Acres)**

| State or Territory | Government | | | Private (mainly P. radiata) | Total |
|---|---|---|---|---|---|
| | Pinus radiata | Other species | Total | | |
| New South Wales .. .. | 73,556 | 19,399 | 92,955 | (*a*) 20,000 | 112,956 |
| Victoria .. .. .. | (*b*) 43,922 | 11,097 | (*b*) 55,019 | 67,600 | 122,619 |
| Queensland .. .. | 2,120 | 96,917 | 99,037 | 6,720 | 105,757 |
| South Australia(*c*) .. .. | 107,329 | 9,311 | 116,640 | 37,444 | 154,084 |
| Western Australia .. .. | 12,957 | 24,425 | 37,382 | 1,361 | 38,743 |
| Tasmania .. .. .. | 16,669 | 419 | 17,088 | 6,408 | 23,496 |
| Northern Territory .. | .. | 135 | 135 | 15 | 150 |
| Australian Capital Territory.. | 23,358 | 2,238 | 25,596 | 100 | 25,696 |
| **Australia .. ..** | **279,911** | **163,941** | **443,852** | **139,648** | **583,500** |

(*a*) Estimated. (*b*) Includes approximately 4,000 acres of plantations owned by State instrumentalities other than the Forests Commission. (*c*) Excludes plantings during 1962.

A special article prepared by the Forestry and Timber Bureau giving a detailed account of the history and development of softwood plantations and of the characteristics of individual species, is included in Official Year Book No. 44, page 975.

Hardwood plantations (mainly *Eucalyptus spp.*) comprise a much smaller area, and the total acreage at 30th June, 1962, was 32,000 acres, about two-thirds of which was mallet. Plantations of this species have been established in Western Australia for tan bark production.

4. **Forest Administration and Research.**—(i) *Forestry Activities of the Commonwealth Government.* (*a*) *General.* Although control of forests is a function of the State Governments, the Commonwealth Government has entered the research field with the aim of

assisting both public and private enterprise. The two main research authorities administered by the Commonwealth Government are the Commonwealth Forestry and Timber Bureau and the Division of Forest Products of the Commonwealth Scientific and Industrial Research Organization. A brief account of the activities of these two organizations is given below.

(*b*) *Commonwealth Forestry and Timber Bureau.* The activities of the Forestry and Timber Bureau include forestry education and research, the study of timber supply and the management of certain forests.

The Australian Forestry School, located in Canberra, trains professional foresters. Training at the school covers the third and fourth years of a four-year degree course in forestry. The first two years of the course are spent in a study of prescribed science subjects at one of the Australian universities. The third and fourth years are spent at the Forestry School studying specialized forestry subjects. Students who complete the course satisfactorily graduate in Forestry at their home university and are awarded the Commonwealth Diploma in Forestry. The Commonwealth Diploma in Forestry or the Diploma in Forest Technology may also be awarded to suitable graduates from Australia or overseas who complete a course at the Australian Forestry School.

In 1961, the Commonwealth Government decided to expand forestry research in Australia and combined the research activities of the existing Divisions of Silvicultural Research and Forest Management Research to form the Forest Research Institute. The research work carried out by the existing sections of the Forest Research Institute covers a wide range of studies, including the following:—factors affecting tree growth, tree breeding, introduction of exotic species, forest nutrition, forest botany, forest entomology and pathology, fire protection, watershed management, forest mensuration, forest management and management economics, and aerial inventory. At the present time, there are forest experimental stations at Mt. Burr in South Australia, at Dover in Tasmania and at Dwellingup in Western Australia, which are run on a co-operative basis with the forest services of those States. The station at Traralgon, Victoria, is operated in conjunction with a private forestry company, and the Darwin station works on behalf of the Northern Territory Administration. The Hobart Airport station is a joint venture by the Forestry and Timber Bureau and the Commonwealth Scientific and Industrial Research Organization acting on behalf of the National Sirex Fund. A new station is under construction at Mt. Gambier in South Australia.

Advice is currently made available to government departments and private enterprise on timber supply matters. Research is undertaken on logging methods and machines and on matters associated with the marketing of timber products.

A Division of the Bureau manages the forests of the Australian Capital Territory, while the Darwin research station advises on the management of the forests of the Northern Territory. In addition, advice is made available to the Administrations of the Australian External Territories on the management of the forests in those Territories.

(*c*) *Commonwealth Scientific and Industrial Research Organization, Division of Forest Products.* Fundamental investigations connected with the properties and uses of timber and forest products generally are carried out by the Division of Forest Products of the Commonwealth Scientific and Industrial Research Organization. These investigations cover a very wide field, e.g. structure and chemistry of wood, tans, etc.; properties and uses of wood; methods of production of sawn timber, pulp, paper, etc.

(ii) *Forestry Activities of the States.* The powers and functions of State forest authorities are laid down under forest Acts and Regulations. In each State, there is a department or commission to control and manage State forests, etc. Its functions include the introduction of proper measures for the control and management of forest land; the protection of forest land; the conversion, marketing and economic utilization of forest products; the securing of an adequate and permanent reservation of State forests; the establishment and maintenance of coniferous forests to remedy the existing deficiency of softwoods in Australia. All State forest services are actively engaged on research programmes involving problems of a more practical nature as opposed to the fundamental research being carried out by the federal authorities. The Forest Commission of Victoria maintains a Forestry School at Creswick, where recruits are trained for employment in the Commission or in other avenues of forestry. Annual reports are issued by each State forest authority.

In addition to developing permanent forest reserves in each State, foresters are surveying all timber lands with a view to obtaining dedications of new State forests to add to the permanent forest estate or to release areas unsuitable for forestry for other uses. State forest authorities also usually control all timber on unoccupied Crown lands as well as over 10 million acres of timber reserves, national parks, etc.

The universities in all States provide facilities for forestry graduates attending the universities or, in some cases, for forestry graduates working within, or outside, the States to proceed to advanced degrees. The University of Melbourne has established a School of Forestry to assist both undergraduate and post-graduate students.

(iii) *Private Forestry.* A number of private forestry companies are now operating in Australia. They are concerned mainly with the supply of raw materials to specific wood processors (often parent companies). The majority have professional foresters on their staff, several being engaged on research.

An estimate of the area of softwood plantations established by private companies and individuals is included in the table on pages 1108–9.

5. **Fire Protection.**—Fire control measures in Australia are the responsibility of the individual State governments, and the provision of adequate fire protection is one of the main problems facing forest authorities. Of some 52 million acres of forest land requiring protection, the forest services maintain a high degree of protection over a relatively accessible area of about 20 million acres; about 19 million acres, being more difficult of access, are not so highly protected; about 13 million acres are, at present, not protected.

The responsibility for the protection of private property outside urban areas rests with volunteer bush fire brigade organizations which are co-ordinated in each State by a committee or board carrying out functions of an advisory or educational nature and fostering the growth and organization of the bush fire brigade movement. Throughout the main agricultural and forest areas of Australia, there are over 5,000 registered volunteer bush fire brigades with a membership approaching 250,000. Although forest and rural fire organizations are entirely separate entities, a high degree of co-operation and liaison is maintained.

In addition to the forest service and rural organizations, various private and semi-governmental bodies in each State maintain fire protection organizations, which are generally concerned with the protection of private forestry operations and hydro-electric and water catchment areas.

Over the five-year period 1958 to 1962, the annual cost of protecting from fire the 39 million acres of forest land for which State forest services provide protection is estimated at £2,100,000 or about 1s. 1d. an acre. The cost of rural fire control as a whole cannot be estimated with any degree of accuracy, because by far the greatest contribution comes from the personal efforts of volunteer brigade members.

The Australian fire season is very variable, with an average of one particularly bad fire season every seven years or so. Such years as 1926, 1939, 1944, 1952 and 1957 account for a large proportion of the average annual burn. Over 80 per cent. of the area burnt carries little commercial timber, being mainly firewood and protection forest. The number of fires and the forest area burnt during the last five years is shown in the following table.

NUMBER OF FIRES AND FOREST AREAS BURNT: AUSTRALIA

(*Source:* Forestry and Timber Bureau)

| Year | Number of fires | Forest areas burnt | Burnt areas as a proportion of total forest areas |
|---|---|---|---|
| | No. | '000 acres | Per cent. |
| 1957–58 .. .. .. | 2,908 | 2,078 | 5.11 |
| 1958–59 .. .. .. | 1,175 | 456 | 1.10 |
| 1959–60 .. .. .. | 1,504 | 1,314 | 2.48 |
| 1960–61 .. .. .. | 2,667 | 1,294 | 2.47 |
| 1961–62 .. .. .. | 1,761 | 297 | 0.57 |

Intensive research work is being undertaken on fire problems, and several governmental groups are working on such projects as the study of fire behaviour and associated fuel and meteorological conditions, the use of chemical aids in fire suppression, the development of protective clothing and devices to aid fire-fighters, and the development of more efficient fire-fighting equipment.

Since fire prevention is one of the most important aspects of the problem, intensive campaigns are being conducted to reduce the incidence of man-caused fires. A study of fire causes in recent years reveals that human agencies account for approximately 90 per cent. of all fires, and of this figure at least 80 per cent. were preventable. It is estimated that "burning-off" (much of which is started illegally) accounts for 30 per cent. of all fires. Lightning accounts for a little over 10 per cent. of all fires in Australia, although the incidence of fires caused by lightning is much higher in certain areas, especially the Southern Highlands region in New South Wales and Victoria. Although lightning is a relatively small numerical cause of fire, the percentage area burnt from this cause is estimated at about 20 per cent. This high percentage is due to the multiple fire outbreaks causing fire fighting difficulties and to the inaccessibility of the areas in which such fires generally occur.

## § 3. Employment in Forestry

1. **Persons Engaged in Forestry Activities.**—In the following table, which shows particulars collected in the Population Censuses of Australia of 30th June, 1947, 1954 and 1961, the numbers of persons whose industry was stated to be "forestry (excluding sawmilling)" are shown, together with the numbers engaged in all primary industries and the total work force.

PERSONS ENGAGED IN FORESTRY: AUSTRALIA

| Particulars | Census, 30th June— | | |
|---|---|---|---|
| | 1947 | 1954 | 1961 |
| Persons engaged in— | | | |
| Forestry (excluding sawmilling) .. .. .. | 24,793 | 15,468 | 13,725 |
| All primary industries .. .. .. .. | 563,607 | 560,100 | 472,670 |
| Total work force .. .. .. .. | 3,196,431 | 3,702,022 | 4,225,098 |
| Persons employed in forestry (excluding sawmilling) as a proportion of— | | | |
| All primary industries .. .. .. % | 4.4 | 2.8 | 2.9 |
| Total work force .. .. .. % | 0.8 | 0.4 | 0.3 |

2. **Employment by Forestry Departments.**—In the table below, details are shown of the number of persons employed by State forestry departments, and by the Forestry and Timber Bureau in the Australian Capital Territory and the Northern Territory, at 30th June, 1962.

PERSONS EMPLOYED BY FORESTRY DEPARTMENTS, 30th JUNE, 1962

| Occupational group | N.S.W. | Vic. | Q'land | S. Aust. | W. Aust. | Tas. | N.T. | A.C.T. | Aust. |
|---|---|---|---|---|---|---|---|---|---|
| Professional staff | 229 | 207 | 91 | 75 | 61 | 32 | 5 | 9 | 709 |
| Non-professional field staff .. | 220 | 222 | 97 | 8 | 148 | 87 | 11 | 1 | 794 |
| Clerical staff .. | 300 | 255 | 187 | 101 | 51 | 85 | 3 | 8 | 990 |
| Extraction of timber .. | 1,266 | 104 | 123 | 38 | 28 | .. | (a) 14 | .. | 6,475 |
| Milling of timber | | 19 | .. | 739 | 15 | .. | .. | .. | |
| Labour (forest workers, etc.) | | 839 | 2,015 | 264 | 554 | 298 | (b) 111 | 48 | |
| Total .. | 2,015 | 1,646 | 2,513 | 1,225 | 857 | 502 | 144 | 66 | 8,968 |

(a) Includes 13 full-blood aboriginals. (b) Includes 97 full-blood aboriginals.

3. **Employment in Milling Operations.**—Details of the average number of persons employed, including working proprietors, in sawmills during the year 1961–62 are shown in the next table. Further details regarding the operations of sawmills in 1960–61 are shown in Chapter VI. Manufacturing Industry.

**NUMBER OF SAWMILLS AND NUMBER OF PERSONS EMPLOYED, 1961-62**

| Particulars | N.S.W. | Vic. | Q'land | S. Aust. | W. Aust. | Tas. (a) | Aust.(b) |
|---|---|---|---|---|---|---|---|
| Number of sawmills | 866 | 463 | 556 | 82 | 217 | 329 | 2,513 |
| Average number of persons employed during year— | | | | | | | |
| Males | 8,162 | 6,045 | 5,341 | 2,115 | 3,653 | 2,604 | 27,920 |
| Females | 409 | 241 | 285 | 189 | 58 | 80 | 1,262 |
| Total | 8,571 | 6,286 | 5,626 | 2,304 | 3,711 | 2,684 | 29,182 |

(a) Includes plywood mills. (b) Excludes Northern Territory and Australian Capital Territory.

## § 4. Forest Production

1. **Forest Products.**—The table below shows details of production of forest products in each State and Territory in 1961–62.

**FOREST PRODUCTION, 1961-62**

| Product | Unit | N.S.W. | Vic. | Qld | S.A. | W.A. | Tas. | N.T. | A.C.T. | Aust. |
|---|---|---|---|---|---|---|---|---|---|---|
| Logs for sawing, peeling, slicing or pulping— | '000 | | | | | | | | | |
| Forest hardwoods | cub. ft. | 48,076 | 60,789 | 21,123 | 574 | 50,094 | 42,572 (a) | 7 | 154 | b 223,389 |
| Brushwoods and scrubwoods | " | 3,812 | .. | 8,076 | .. | .. | .. (a) | 2 | .. | (b)11,890 |
| Softwoods— | | | | | | | | | | |
| Indigenous forest "pines"— | | | | | | | | | | |
| Cypress | " | 7,268 | 205 | 4,691 | 114 | .. | .. (a) | 73 | .. | (b)12,351 |
| Other | " | 346 | .. | 2,928 | 3 | .. | 399 | .. | .. | (b) 3,676 |
| Plantation grown "pines" | " | 4,921 | 8,139 | 2,826 | 22,999 | 1,505 | 959 | .. | 896 | 42,245 |
| Total, logs | " | 64,423 | 69,133 | 39,644 | 23,690 | 51,599 | 43,930 (a) | 82 | 1,050 | b 293,551 |
| Value of logs | £'000 | 9,228 | 9,068 | 6,669 | 2,363 | 3,510 | 4,607 (a) | 20 | 123 | (b)35,588 |
| Hewn and other timber (not included above)— | | | | | | | | | | |
| Firewood(c) (weight) | '000 tons | 243 | 1,711 | 128 | 490 | 522 | 419 (a) | 1 | (a)(d) | (b) 3,514 |
| Other(e) (value) | £'000 | 4,669 | (a)1,262 | 940 | (f) | (g) 602 | (a) 306 | .. | (a)(h) | (b) 7,779 |
| Value of hewn and other timber | " | 5,302 | (i) 8,813 | 1,244 | (i) 1,342 | (g)1,790 | (j) 1,245 | (a) 4 | 1 | (b)19,741 |
| Other forest products(k) (total value) | " | (l) 260 | (l) 84 | 1 | 59 | (m) 9 | 8 | .. | .. | (b) 421 |
| Total Value of Forest Products | " | i 14,790 | i 17,965 | 7,914 | (i) 3,764 | (n)5,552 | 5,860 | (a) 24 | (i) 124 | (b)55,993 |

(a) Incomplete; no details available of production from private land. (b) Incomplete; *see* footnotes to individual State and Territory figures. (c) Includes mill waste used as firewood. (d) Less than 500 tons. (e) Includes sleepers, transoms, girders, bridge timbers, mining timber, poles, piles, timber used for tannin extract, etc. (f) Not available. (g) Excludes timber used for tannin extract, details of which are not available for publication. (h) Less than £500. (i) Incomplete; *see* footnotes to individual items. (j) Includes an estimate of the value of timber taken from private land. (k) Includes charcoal (forest production only), tanning bark, essential oils, sandalwood, eucalyptus leaves, crude rutin, etc. (l) Incomplete, details of some production from private land not available. (m) Excludes value of sandalwood and substitutes, details of which are not available for publication. (n) Includes timber used for tannin extract and sandalwood and substitutes.

The following table gives particulars of the production of forest products in Australia.

FOREST PRODUCTION(*a*): AUSTRALIA

| Product | Unit | 1957–58 | 1958–59 | 1959–60 | 1960–61 | 1961–62 |
|---|---|---|---|---|---|---|
| Logs for sawing, peeling, slicing or pulping— | | | | | | |
| Forest hardwoods | '000 cub. ft. | 234,253 | 239,968 | 243,940 | 242,142 | 223,389 |
| Brushwoods and scrubwoods | ,, | 13,398 | 14,518 | 14,287 | 14,689 | 11,890 |
| Softwoods— | | | | | | |
| Indigenous forest "pines"— | | | | | | |
| Cypress | ,, | 14,167 | 13,861 | 14,457 | 13,483 | 12,351 |
| Other | ,, | 6,571 | 5,746 | 4,716 | 4,726 | 3,676 |
| Plantation grown "pines" | ,, | 29,671 | 38,858 | 42,859 | 39,850 | 42,245 |
| Total logs | ,, | 298,060 | 312,951 | 320,259 | 314,890 | 293,551 |
| Value of logs | £'000 | 36,097 | 37,157 | 38,983 | 38,475 | 35,588 |
| Hewn and other timber (not included above)— | | | | | | |
| Firewood(*b*)(weight) | '000 tons | 3,923 | 4,081 | 3,997 | 3,705 | 3,514 |
| Other (value)(*c*) | £'000 | 9,299 | 8,191 | 8,066 | 8,320 | 7,779 |
| Value of hewn and other timber(*d*) | ,, | 20,162 | 20,479 | 20,347 | 20,544 | 19,741 |
| Other forest products(*e*) (total value) | ,, | 528 | 448 | 345 | 372 | 421 |
| Total Value of Forest Products(*f*) | ,, | 57,044 | 58,170 | 59,863 | 59,764 | 55,993 |

(*a*) Excludes some production from private land thought to be relatively small, details of which are not available. (*b*) *See* footnote (*c*) to previous table. (*c*) *See* footnotes (*e*), (*f*) and (*g*) to previous table. (*d*) Incomplete, *see* footnotes (*f*) and (*g*) to previous table. (*e*) *See* footnotes (*k*) and (*m*) to previous table. (*f*) Includes timber used for tannin extract and sandalwood and substitutes in Western Australia; but excludes timber other than logs and firewood in South Australia.

2. **Value of Production.**—(i) *General.* While statistics of both the gross value (at principal markets) and local value (at place of production) of the forestry industry are available, particulars of the value of materials used in the process of production are not available for all States. For this reason, values cannot be stated on a net basis, as has been done with most other industries.

(ii) *Gross and Local Values*, 1961–62. The following table shows gross and local values of forestry production for each State in 1961–62. A more detailed reference to the value of production of forestry and other industries in Australia, as well as a brief explanation of the terms used, will be found in Chapter XXIX. Miscellaneous.

GROSS AND LOCAL VALUE OF FORESTRY PRODUCTION, 1961-62
(£'000)

| State or Territory | Gross value(*a*) | Marketing costs | Local value(*b*) |
|---|---|---|---|
| New South Wales | 14,790 | 359 | 14,431 |
| Victoria | 17,965 | 1,516 | 16,449 |
| Queensland | 7,914 | 2,019 | 5,895 |
| South Australia | 3,764 | 30 | 3,734 |
| Western Australia | 5,552 | 361 | 5,191 |
| Tasmania | 5,860 | 770 | 5,090 |
| Northern Territory | 24 | n.a. | 24 |
| Australian Capital Territory | 124 | n.a. | 124 |
| **Australia** | **55,993** | **5,055** | **50,938** |

(*a*) Gross production valued at principal markets. (*b*) Gross production valued at place of production.

(iii) *Local Values, 1957–58 to 1961–62.* In the following table, the local value of forestry production and the local value per head of population are shown by States for the years 1957–58 to 1961–62.

LOCAL VALUE OF FORESTRY PRODUCTION

| Year | N.S.W. | Vic. | Qld | S.A. | W.A. | Tas. | Aust.(a) |
|---|---|---|---|---|---|---|---|
| | | | LOCAL VALUE (£'000) | | | | |
| 1957–58 .. .. | 15,341 | 15,253 | 9,414 | 3,587 | 5,112 | 4,547 | 53,471 |
| 1958–59 .. .. | 15,574 | 16,148 | 8,356 | 4,103 | 5,067 | 4,887 | 54,358 |
| 1959–60 .. .. | 15,169 | 17,618 | 8,469 | 3,929 | 5,085 | 5,556 | 56,001 |
| 1960–61 .. .. | 15,300 | 16,713 | 7,149 | 3,729 | 5,167 | 5,735 | 53,975 |
| 1961–62 .. .. | 14,431 | 16,449 | 5,895 | 3,734 | 5,191 | 5,090 | 50,938 |
| | | | LOCAL VALUE PER HEAD OF POPULATION (£) | | | | |
| 1957–58 .. .. | 4.2 | 5.7 | 6.6 | 4.0 | 7.4 | 13.7 | 5.5 |
| 1958–59 .. .. | 4.2 | 5.9 | 5.8 | 4.5 | 7.2 | 14.4 | 5.5 |
| 1959–60 .. .. | 4.0 | 6.2 | 5.7 | 4.2 | 7.1 | 16.1 | 5.5 |
| 1960–61 .. .. | 3.9 | 5.8 | 4.8 | 3.9 | 7.1 | 16.4 | 5.2 |
| 1961–62 .. .. | 3.7 | 5.6 | 3.9 | 3.8 | 7.0 | 14.3 | 4.8 |

(a) Includes Northern Territory and Australian Capital Territory.

## § 5. Timber and Timber Products

1. **Mill Production of Timber.**—Particulars of logs treated and the production of sawn, peeled and sliced timber by sawmills and other woodworking establishments are shown in the following table. These figures have been compiled from the annual factory collections in each State which cover virtually all sawmills. The only omissions are some small portable mills operated by itinerants, e.g. sleeper cutters.

OUTPUT OF AUSTRALIAN-GROWN TIMBER: ALL MILLS, 1961-62

('000 super. feet)

| Particulars | N.S.W. | Vic. | Q'land | S.A. | W.A. | Tas. | Aust.(a) |
|---|---|---|---|---|---|---|---|
| | | | LOGS TREATED (TRUE VOLUME) | | | | |
| Hardwood .. | 589,797 | 612,931 | 214,497 | 9,771 | 601,111 | 364,187 | 2,392,294 |
| Softwood .. | 148,147 | 73,008 | 128,321 | 258,892 | 18,059 | 13,207 | 639,634 |
| *Total* .. | *737,944* | *685,939* | *342,818* | *268,663* | *619,170* | *377,394* | *3,031,928* |
| | | | SAWN, PEELED OR SLICED TIMBER PRODUCED FROM LOGS ABOVE | | | | |
| Hardwood .. | 296,456 | 270,466 | 162,834 | 4,291 | 186,331 | 142,729 | 1,063,107 |
| Softwood .. | 68,106 | 28,953 | 58,700 | 120,738 | 6,448 | 6,071 | 289,016 |
| *Total* .. | *364,562* | *299,419* | *221,534* | *125,029* | *192,779* | *148,800* | *1,352,123* |

(a) Excludes Australian Capital Territory and Northern Territory.

The following table shows logs used, and sawn, peeled, and sliced timber produced, in Australia.

OUTPUT OF AUSTRALIAN-GROWN TIMBER, ALL MILLS: AUSTRALIA(*a*)
('000 super. feet)

| Particulars | 1957–58 | 1958–59 | 1959–60 | 1960–61 | 1961–62 |
|---|---|---|---|---|---|
| LOGS TREATED (TRUE VOLUME) | | | | | |
| Hardwood | 2,625,797 | 2,728,183 | 2,793,399 | 2,672,080 | 2,392,294 |
| Softwood | 581,158 | 677,607 | 705,772 | 642,324 | 639,634 |
| *Total* | *3,206,955* | *3,405,790* | *3,499,171* | *3,314,404* | *3,031,928* |
| SAWN, PEELED OR SLICED TIMBER PRODUCED FROM LOGS ABOVE | | | | | |
| Hardwood | 1,127,150 | 1,158,799 | 1,208,595 | 1,152,995 | 1,063,107 |
| Softwood | 264,027 | 301,175 | 312,450 | 262,212 | 289,016 |
| *Total* | *1,391,177* | *1,459,974* | *1,521,045* | *1,415,208* | *1,352,123* |

(*a*) Excludes Australian Capital Territory and Northern Territory.

In addition to the mill production of timber shown in the preceding tables, a large amount of hewn and round timber, e.g. sleepers, piles, poles, fencing timber, timber used in mining, and fuel, is obtained directly from forest and other areas. Complete information in respect of the volume of this output is not available.

2. **Veneers, Plywood, etc.**—Cutting of timber for the manufacture of veneers, plywood etc., has been carried out in most States for a number of years. In recent years, this has been considerably extended, since plywood manufacture has allowed the use of some species unsuitable for sawing. Special attention has been paid to ensure that logs suitable for peeling are diverted to ply factories. However, because of insufficient supplies of Australian-grown logs, 43 per cent. of the logs used in 1961–62 were imported.

The following table shows the production of plywood.

PLYWOOD PRODUCED
('000 square feet: $\frac{3}{16}$-in. basis)

| State | 1957–58 | 1958–59 | 1959–60 | 1960–61 | 1961–62 |
|---|---|---|---|---|---|
| New South Wales | 45,647 | 56,378 | 62,701 | 64,930 | 56,184 |
| Queensland | 131,206 | 139,743 | 134,825 | 112,414 | 98,086 |
| Other States | 35,784 | 40,083 | 44,574 | 46,045 | 48,536 |
| **Australia** | **212,637** | **236,204** | **242,100** | **223,389** | **202,806** |

Of the total plywood produced in 1961–62, 153,382,000 square feet ($\frac{3}{16}$-in. basis) were classed as "Commercial", 31,012,000 as "Waterproof", 1,418,000 as "Case", and 16,994,000 as "Sliced Fancy".

During 1961–62, 504.2 million square feet ($\frac{1}{16}$-in. basis) of veneers were produced by the rotary process for the manufacture of plywood, and 221.1 million square feet ($\frac{1}{16}$-in. basis) were sold or added to stock, the bulk of which would eventually be used in the production of plywood. In addition, 60.2 million square feet of sliced veneers were produced.

3. **Manufactured Boards.**—(i) *Hardboard.* There were five factories producing hardboard in Australia during 1961–62 (two in New South Wales, and one in each of Victoria, Queensland and Tasmania), and during the three years ended 30th June, 1962, the following quantities were produced:—1959–60, 31,645,000 square yards; 1960–61, 31,085,000 square yards; and 1961–62, 28,772,000 square yards.

(ii) *Other Manufactured Boards.* Production of softboards (made of fibre), resin-bonded boards (made from wood chips, wood wool, sawdust, etc.) and other types of manufactured boards other than hardboards amounted to 3,862,000 square yards during 1961–62.

4. **Wood Pulp and Paper.**—(i) *Wood Pulp.* During 1961–62, seven wood pulp mills were operating in three States, and production was 152,175 tons of chemical pulp and 67,495 tons of mechanical pulp, a total of 219,670 tons. During the previous year, production was 148,640 tons of chemical pulp and 64,569 tons of mechanical pulp.

(*a*) *Victoria.* In Victoria, wood pulp is produced at Maryvale in Gippsland by a chemical process known as the Kraft or Sulphate process. The pulpwood used at this mill consists mainly of eucalypt timber below sawmilling quality, together with a quantity of plantation pine thinnings.

(*b*) *South Australia.* Three wood pulp mills operate in the south-eastern part of South Australia, using raw material in the form of logs from the State forests.

(*c*) *Tasmania.* In Tasmania, three mills are making pulp from indigenous hardwoods. At Burnie, on the north-west coast, a company is producing fine writing and printing paper, parchment and other specialty papers, and hardboard. A mill at Boyer, in the Derwent Valley, is the only producer of newsprint in Australia. Here wood pulp is produced from hardwoods drawn from State timber concession areas. A semi-chemical pulp mill has recently been completed at Geeveston, 37 miles south of Hobart. This plant utilizes eucalypt timber unsuitable for sawmilling from southern forests and, with its capacity of 25,000 tons of pulp a year, requires some 19 million super. feet of timber annually. The pulp from this mill is bulkloaded for shipping to Sydney where it is converted to paper and paper board.

(ii) *Paper and Paper Board.* Paper and paper board are manufactured in all States, but the greater part of the industry is in New South Wales, Victoria and Tasmania. During 1961–62, twenty-two paper mills were operating, ten in Victoria, four in New South Wales, three in Tasmania, two each in Queensland and South Australia and one in Western Australia. A wide variety of paper and paper board is produced in Australian mills. The table below gives details of the production of some of these items.

**PRODUCTION OF PAPER PRODUCTS: AUSTRALIA**

| Type of paper | Quantity (tons) | | | Value (£'000) | | |
|---|---|---|---|---|---|---|
| | 1959–60 | 1960–61 | 1961–62 | 1959–60 | 1960–61 | 1961–62 |
| Newsprint .. .. | 88,510 | 88,039 | 89,758 | 6,682 | 6,491 | 6,445 |
| Blotting .. .. | 800 | 755 | 487 | 145 | 133 | 84 |
| Duplicating .. .. | 5,804 | 7,055 | 5,156 | 916 | 1,176 | 834 |
| Printing and writing .. | 67,825 | 80,166 | 58,647 | 11,507 | 12,641 | 9,751 |
| Wrapping— | | | | | | |
| Kraft .. .. | 66,451 | 98,607 | 108,313 | 9,000 | 12,226 | 13,228 |
| Other .. .. | 12,600 | 9,828 | 12,151 | 2,275 | 1,829 | 2,152 |
| Felt and carpet felt .. | 4,145 | 3,112 | 2,356 | 473 | 327 | 248 |
| Paper boards .. .. | 221,338 | 210,072 | 206,909 | 18,724 | 17,687 | 16,374 |

## § 6. Oversea Trade in Forest Products, Timber and Timber Products

1. **Imports.**—Quantities and values of forest products, timber and timber products imported into Australia during the years 1959–60 to 1961–62 are shown in the following table.

IMPORTS OF FOREST PRODUCTS, TIMBER AND TIMBER PRODUCTS: AUSTRALIA

| Particulars | Unit of quantity | Quantity | | | Value (£A.'000 f.o.b.) | | |
|---|---|---|---|---|---|---|---|
| | | 1959–60 | 1960–61 | 1961–62 | 1959–60 | 1960–61 | 1961–62 |
| Logs not sawn— | | | | | | | |
| Softwoods(*a*) | '000 sup. ft. | 3,714 | 1,872 | 2,024 | 117 | 58 | 68 |
| Hardwoods(*b*) | ,, | 60,010 | 58,460 | 33,650 | 1,585 | 1,715 | 985 |
| Undressed timber— | | | | | | | |
| Dunnage | .. | .. | .. | .. | 5 | 3 | 4 |
| Softwoods(*a*), n.e.i.— | | | | | | | |
| Douglas fir | '000 sup. ft. | 182,265 | 183,126 | 168,436 | 8,365 | 8,498 | 6,606 |
| Radiata pine | ,, | 43,500 | 33,462 | 24,913 | 1,631 | 1,213 | 900 |
| Other | ,, | 19,741 | 32,882 | 16,227 | 1,723 | 2,541 | 897 |
| Hardwoods(*b*), n.e.i. | ,, | 67,387 | 85,262 | 53,450 | 3,651 | 5,157 | 2,669 |
| Box shooks, n.e.i. | ,, | 610 | 567 | 641 | 39 | 33 | 48 |
| Dressed timber | ,, | 11,563 | 13,178 | 7,250 | 705 | 887 | 532 |
| Veneers | '000 sq. ft. | 13,192 | 18,755 | 15,978 | 147 | 185 | 190 |
| Plywood | ,, | 29,523 | 31,618 | 31,390 | 1,074 | 1,090 | 1,069 |
| Tanning substances | cwt. | 148,542 | 164,596 | 145,329 | 435 | 402 | 380 |
| Sandalwood oil | lb. | 1,402 | 1,540 | 1,508 | 8 | 9 | 14 |

(*a*) Non-pored woods. (*b*) Pored woods.

Imports of softwood logs in recent years have come almost exclusively from the Solomon Islands and Sarawak, and more than two-thirds of the imports of hardwood logs have come from North Borneo. Imports of undressed softwood timber comprise mainly Douglas fir (Oregon pine) from Canada and the United States of America and Radiata pine from New Zealand. Imports of undressed hardwood timber come mainly from Malaya and Sarawak. Timbers from Scandinavian countries provide most of the dressed timber imports.

Imports of timber products are mainly veneers and plywoods. The Australian Trust Territory of New Guinea and Japan provide most of the plywood imports, and the United Kingdom and New Guinea supply about 54 per cent. of Australia's imports of veneer.

Tanning substances are the only other forest products imported in significant quantities. The most important of these is wattle bark produced in South Africa.

2. **Exports.**—Details of exports of Australian forest and timber products in the years 1959–60 to 1961–62 are given in the table below.

EXPORTS OF AUSTRALIAN FOREST PRODUCTS, TIMBER AND TIMBER PRODUCTS(*a*)

| Particulars | Unit of quantity | Quantity | | | Value (£A.'000 f.o.b.) | | |
|---|---|---|---|---|---|---|---|
| | | 1959–60 | 1960–61 | 1961–62 | 1959–60 | 1960–61 | 1961–62 |
| Logs not sawn | '000 sup. ft. | 4,099 | 6,494 | 8,190 | 237 | 371 | 309 |
| Undressed timber(*b*)— | | | | | | | |
| Sleepers | ,, | 32,090 | 17,779 | 27,410 | 1,775 | 931 | 1,518 |
| Fence posts, girders and pole blocks | ,, | 614 | 387 | 879 | 43 | 31 | 51 |
| Softwoods(*c*), n.e.i. | ,, | 167 | 134 | 74 | 14 | 14 | 8 |
| Hardwoods(*d*), n.e.i. | ,, | 13,914 | 21,028 | 16,966 | 951 | 1,458 | 1,169 |
| Dressed timber | ,, | 1,467 | 1,021 | 1,274 | 193 | 142 | 184 |
| Veneers | '000 sq. ft. | 4,020 | 2,046 | 1,589 | 113 | 49 | 38 |
| Plywood | ,, | 754 | 1,101 | 898 | 86 | 124 | 107 |
| Tanning substances | cwt. | 138,130 | 63,582 | 88,659 | 351 | 182 | 256 |
| Charcoal | ,, | 6,249 | 5,712 | 6,831 | 27 | 22 | 25 |
| Eucalyptus oil | '000 lb. | 257 | 235 | 310 | 95 | 80 | 104 |
| Acaroid resin, grass tree and yacca gum | cwt. | 9,068 | 8,949 | 15,714 | 18 | 17 | 32 |

(*a*) Excludes re-exports. (*b*) Excludes stumps and the like. (*c*) Non-pored woods. (*d*) Pored woods.

Of the exports of logs in 1961–62, 51 per cent. were consigned to New Zealand and 48 per cent. to Japan. In the same year, 42 per cent. of the sleepers exported were consigned to the United Kingdom and 26 per cent. to New Zealand, while of all undressed timber exported, 44 per cent. were consigned to New Zealand and 16 per cent. to the United Kingdom. Consignments to the United States of America accounted for 78 per cent. of the exports of tanning substances in 1961–62.