
QUEENSLAND FOREST SERVICE.

Provisional Forestry Board,
Forests Office,

Brisbane, 8th August, 1925.

SIR,—We have the honour to present the Report of the Provisional Forestry Board upon the operations of the Queensland Forest Service during the year ended 31st December, 1924.

We are, &c.,

E. H. F. SWAIN, Chairman,

A. A. STAINES,

C. R. PATERSON,

} Members.

The Hon. W. McCormack, M.L.A.,
Parliament House, Brisbane.

ERRATA.

Page 30.—

III.—TRADING OPERATIONS.

Harvesting and Marketing Operations :—

13th Line.—Amend the figures “ 50, 376, 268 ” to read “ 57, 607, 386.”

14th Line.—Amend the figures “ 65,000,000 ” to read “ 72,245,699.”

14th and 15th Lines.—Delete from “ which approaches closely
achieved in 1914 ” and substitute the following :—“ which
considerably exceeds the peak cut of the Crown forest estate of
66,099,000 super. feet, which was achieved in 1914.”

In Schedule at foot of page, under year 1924.—Amend the figures
“ 50, 376, 268 ” to read “ 57, 607, 386,” and the total “ 65,014,581 ”
to read “ 72,607,386.”



In a Hoop Pine Plantation 9 years after planting, Derrier Plot, Brooloo Forest.

QUEENSLAND FOREST SERVICE.

Report of the Provisional Forestry Board for the Year ended
31st December, 1924.

INDEX.

	PAGE.
I. FORESTRY, 1924—	
INTRODUCTORY	4
ADMINISTRATIVE	6
II. TECHNICAL OPERATIONS—	
SILVICULTURE	8
WOOD TECHNOLOGY	15
FOREST PRODUCTS	17
SURVEYS	19
RESERVATIONS	23
ORGANISATION	25
PROTECTION	28
III. TRADING OPERATIONS—	
HARVESTING AND MARKETING	30
SAWMILLING	32

FORESTRY, 1924.

INTRODUCTORY.

At the close of the Annual Report period preceding that with which this Report deals, the Queensland Forest Service had reached a new vantage point in its evolution from the small beginnings of seven years previously.

Our forestry origins are feudal, and in the introduction of English forest policies into Australia in the early days of colonial settlement feudalisms had survived, tincturing the initial processes of the Australian forestry administrations, and giving colour to the popular tradition that forestry existed chiefly for the objectionable purposes of locking up land from settlement, punishing forest offences, controlling forest licenses, and extorting unwarrantable royalties from unoffending timber merchants to the injury of trade and the bolstering up of timber prices generally. These points of view, no doubt, are historical memories of a people whose ancestors suffered persecution at the hands of Norman forest administrators when State Forests subsisted only for the purposes of the King's chase, and when neither a twig nor a bird could be disturbed by rural folk without risk of dire penalty.

The forestry of 1925 in Australia, however, is of vastly different character from the forestry of public imagination. The advent of democracies, and the arrival of an age of sheer economics have influenced inevitably the theory of silvical management, so much so that even the growth of a tree must rest upon balance-sheets prepared upon profit and loss foundations. Apart from the abstract issue of timberland conservation for the protection of watersheds, the diversion of large areas of land from ordinary forms of settlement to the particular one of timber farming by the State, can be justified primarily only if the State Forest management by its management and from its revenues can pay an equal rental for the soils which it occupies, and return also compound interest upon the moneys which it employs in the conduct of its business of growing crops of wood for the use of the people. Modern forestry is essentially commercial in character, and Forest Services are now expected to furnish the State's timber supplies at commercial costs after paying award wages for the labour employed, and furthermore to so organise their harvesting and marketing operations as to be able to sell their goods to proper advantage upon the markets in open competition with imports from abroad. Unless it can so do not all the sciences of the silviculturist can preserve the solvency of silviculture and justify its continuance as an essential enterprise of the State.

The State Forests of Queensland represent the Crown forest estate, and the hypothesis of management postulates the full utilisation of the contained soil capacities for the procurement of a maximum productivity, and this further implies that any chance pocket patches of land of agricultural value within the State Forest area may be utilised by the forest management for the purposes for which they are most properly suited. In this regard attention may be drawn here to the Departmental proposals for the production of bananas on select nooks of the State Forests of the Mary Valley Working Plan Area as a nursing crop for future forest plantations.

The objective of the Queensland Forest Service during the past seven years of development has been to shift the basis of the administration definitely and permanently from the traditional to the economic.

Its preparatory works in the fields of forest valuation, demarcation, surveys, improvements, wood technology, logging, milling, marketing, and experimental silviculture have all been addressed to the end it had in view.

At the close of the calendar year of 1923, the extensive and extending activities of the Forestry Branch of the Department of Public Lands were such as to call clearly for a new co-ordination if the objective of the administration were to be realised. The processes for the harvesting and marketing of original timber stands upon the State's Forests had attained to a condition of efficiency of which increasing trading surpluses offered certain evidence. Forest surveys and works organisation results had afforded bases for the construction of working plans providing for a more definite specification of silvical controls. Wood technological researches had reached fruition in the Universal Wood Index. The return of the newly-appointed Working Plans Officer from silvical researches abroad was imminent. Experimental silviculture had reached a stage at which it was pressing for expression in the larger field of operation which was its due inheritance. The reforestation programme for Queensland, however, had not been embarked upon. The time was fully ripe for an extension of the Forest Service organisation to meet the demands of the new phase upon which the Department was now to enter.

In the Annual Report of the Director of Forests for the year ending 31st December, 1923, important proposals for the reconstitution of branches and the reorganisation of the personnel of the Queensland Forest Service were submitted for the consideration of the Hon. the Minister.

At the date of writing of the present report the proposals in question had reached their consummation. The Forest Service emerges in new shape as a much strengthened organisation for the conduct of the State's business in forests and timber supply.

The amended constitution provides for a centralised form of management operating through three main branches, viz., (1) Harvesting and Marketing (including Sawmilling); (2) Administrative, Secretarial, and Accounts matters generally; and (3) Working Plans, Silviculture, and Surveys; the first dealing with the convenient and profitable disposal of original timber stands, the third with the organisation and production of new wood crops, and the second with the general processes of a Head Office.

The new administrative authority of the Department is a Provisional Forestry Board of three members functioning as one management with suitable delegation of particular powers to the constituent members for the effective control of the three branches.

The Provisional Forestry Board assumed office on 1st November, 1924.

For the organisation of field operations, the State is being divided into Regional Working Plan Areas in each of which the Harvesting and Marketing, and the Working Plan, Silviculture, and Survey Branches are in active co-ordination under the Board.

In these Working Plan Areas the annual cut of timber is regulated to the needs of its particular markets, according to the availability of the timber supplies therein, whilst reinvestment operations for the production of new crops are being programmed under a Regional Forest Working Plan for the area.

With its authority extending along clearly-opened lines directly from the Board to the furthest forests through defined and responsible branches, and through carefully designed local Working Plans, the new constitution of the Queensland Forest Service affords a much more facile instrument than has hitherto existed for the expression of the central policy of the administration and for the co-ordination of the far-flung activities of the Department.

During the ensuing year the Board proposes to submit for the consideration of the Hon. the Minister suggestions for the enactment of such amendments and extensions of the existing forest legislation of Queensland, dating back to 1906, as time and changed circumstances appear to have made necessary for the further development of the Government's forest policy.

The present situation of Queensland with respect to its timber necessities is that its population of 810,000 people is using between 200,000,000 superficial feet and 300,000,000 superficial feet of wood per annum, or between 250 superficial feet and 370 superficial feet per capita per year. This population is increasing at the rate of 2.3 per cent. per annum, so that in 60 years it will amount to 3,170,000 souls, and in 100 years to close on 10,000,000 individuals. For each of these people must be provided by the State a minimum annual wood ration of 250 superficial feet, which is equal to a future annual community requirement for Queensland of 2,500,000,000 superficial feet. This requirement is more than ten times the entire cut of all the timberlands of the State in both Crown and private lands, and no less than forty times the present out-turn of the 4,500,000 acres of forest reservation now held for the purposes of a permanent wood supply for the people.

The interstate forest authorities have agreed upon the provision for Queensland of a minimum forest reservation area of 6,000,000 acres. To assure to the succeeding generation of Queenslanders the supplies of wood which they will so obviously require, this minimum forest reservation of 6,000,000 acres must be brought as soon as possible into a state of maximum productivity of timber. This, then, is the task to be faced by the new administration.

For the report year the gross revenues of the Department, inclusive of receipts on account of the Forest Service Sawmills, have reached the peak of £655,404. The expenditures in log and sawn timber marketing amounted to £364,002.

Over a period of twenty-one years the surpluses transferred to the Consolidated Revenue from forestry operations, other than sawmilling, have reached a grand total of £1,167,972. To this huge sum the pine forests of Queensland have made the greatest contribution.

There was originally in Queensland an estimated natural resource of pine amounting to 4,000,000,000 superficial feet, and of this original asset 3,000,000,000 superficial feet have been converted to the use of the community. In ten to fifteen years the exhaustion of the pine forests will have been completed.

For this reason and because of the imminent cutting out of the high value stands closest to market, a decline in forest revenues must now ensue over the next decade, during which the period of exploitation will merge into the period of active replacement, and a reinvestment of revenues with some possible resort to loan moneys will become necessary in order to assuage the shortage of wood which the cutting out of old forests will bring upon us.

For the requirements of her immediate future, Queensland must now engage in a reforestation programme beginning with 5,000 acres of softwood plantation and 15,000 acres of natural regeneration annually.

ADMINISTRATIVE.

FINANCIAL.

From 1904, when the first records of expenditures on forestry in Queensland are available, to 1924, twenty-one years, there has been received on account of the various branches of forestry operations (other than State Sawmilling, the figures for which are not included) a total sum of £2,198,294. Against this sum there must be set an expenditure of £551,032 made in connection with the harvesting and marketing of timber, and covering costs of cutting and hauling to market, road work, payments of wages to measurers, &c. Offsetting this sum against the gross receipts, a net revenue of £1,647,262 was earned during the twenty-one years to pay the cost of administration and of forest replacement and to provide revenue for the State Treasury. The sum of £219,268 was spent in payment of salaries of the permanent staff and administrative expenses, and £260,022 in local timber sales supervision and in the establishment of silvicultural works and forest organisation operations, surveys, paddocks, roads, &c., making £479,290 in all; the surplus to the Treasury from 1904 to 1924 inclusive thus being £1,167,972.

For the year under review a gross sum of £492,586 was collected; £224,555 was spent in connection with harvesting and marketing, £28,402 in salaries and overhead expenses, and £33,445 in silviculture, surveys, and forest organisation work, the surplus for the year's operations being £206,184, or practically twice that of the previous year. This heavy increase is largely due to the fact that at the commencement of 1924 there was a large amount outstanding in connection with railway timbers, which was paid during the year, and which swelled the receipts by about £30,000. The surplus of £206,000 it will therefore be seen is an abnormal figure as is also the net revenue of £268,000, and it is not anticipated that these figures will be realised during the financial year 1924-25.

Details of the receipts and expenditures on account of forestry for the years 1904-1924 are as follows:—

FINANCIAL STATEMENT, 1904-1924.

Year.	Gross Revenue.*	Payments in connection with Marketing of Forest Service Timber (inc. roads).	Net Revenue.	OTHER EXPENDITURE.			Surplus.
				Overhead.	Capital Improvements, &c.	Total.	
	£	£	£	£	£	£	£
1904	11,441	..	11,441	837	..	837	10,604
1905	11,577	..	11,577	712	..	712	10,865
1906	14,560	..	14,560	1,331	..	1,331	13,229
1907	22,236	..	22,236	1,549	..	1,549	20,687
1908	27,979	..	27,979	2,132	..	2,132	25,847
1909	35,200	..	35,200	2,448	..	2,448	32,752
1910	39,645	..	39,645	2,548	..	2,548	37,097
1911	53,840	..	53,840	2,930	..	2,930	50,910
1912	63,447	..	63,447	3,724	1,673	5,397	58,050
1913	62,973	..	62,973	5,106	2,280	7,386	55,587
1914	74,729	..	74,729	5,959	1,694	7,653	67,076
1915	69,793	..	69,793	5,670	1,746	7,416	63,377
1916	60,401	..	60,401	5,594	3,879	9,473	50,928
1917	66,200	..	66,200	6,326	7,604	13,930	52,270
1918	71,481	..	71,481	9,919	11,958	21,877	49,604
1919 to 30th June, 1919	38,574	..	38,574	5,619	6,947	12,566	26,008
1919-20	121,152	13,876	107,276	16,015	29,648	45,663	61,613
1920-21	163,461*	23,578	139,883	22,830	64,785	87,615	52,268
31st December, 1921 (½ year)	61,517†	11,825	49,692	15,005	23,060	38,065	11,627
1922	267,816‡	91,945	175,871	35,482	31,193	66,675	109,198
1923	367,686§	185,253	182,433	39,130	40,112	79,242	103,191
1924	492,586||	224,555	268,031	33,284	28,563	61,847	206,184
Total	£2,198,294	£551,032	£1,647,262	£224,150	£255,140	£479,290	£1,167,972

* Revenue includes T.C.O. recoupments.

† Includes £1,990 Departmental refund.

‡ Includes £7,754 transferred to Expenditure, and £698 repayments to Vote. These figures also included in Expenditure.

§ Includes repayments to Vote; excludes deposits refunded.

|| Gross revenue 1904-1924 excludes deposits, &c., refunded.

EXPENDITURES, 1924.

The following table gives details of the expenditures from the various Votes during the report period :—

Item.	JANUARY TO DECEMBER, 1924.			Total.	Per Cent.
	Revenue.	Loan.	Trust.		
Overhead Expenses—					
Salaries	£ 21,524			£ 21,524	..
Administration	421	4,461		4,882	..
Extra living allowance to officers	544			544	..
Travelling and incidentals	5,884			5,884	..
Postages, telegrams, &c.	450			450	..
	28,823	4,461	..	33,284	11.6
Forest organisation work, surveys, research work, &c.	846	27,717	..	28,563	10
Timber trading operations—					
Harvesting and marketing (log timber) including road work			126,655	126,655	..
Lumbering (hewn, split, and pole timber)			97,900	97,900	..
			224,555	224,555	78.4
Total				£286,402	100.00

RECEIPTS.

The gross receipts of the Forest Service for the year, exclusive of sawmilling, viz., £492,586, were made up as follows :—

Revenue from sale of log timber (<i>less</i> refunds £4,078)	£ 367,376
Payments to Vote, Forestry and Lumbering Fund recoupments	125,210
	£492,586

The log sales revenue of £367,376 was contributed chiefly by the Southern division of the State, which is an amalgamation of the Warwick, Brisbane, Ipswich, Nanango, Gympie, Maryborough, Gladstone, and Bundaberg districts. All accounts and records in respect of this area are kept at Head Office, and receipts in respect of each district are not readily separable, hence it is treated as one unit. From the South Queensland district was collected £316,344, or 86.1 per cent. of the total. The Far Northern division collected £32,273, or 8.7 per cent., whilst the larger part of the balance was derived from Mackay and Rockhampton districts.

STAFF.

Forest Service operations, especially in the Harvesting and Marketing Sections, increased during the year, and the following is a comparative table showing strength of staff at 31st December, 1923, and at 31st December, 1924 :—

	31-12-24.	31-12-23.
Salaried officers	86	82
General	175	157
Forest Service Sawmill employees	134	137
Total	395	376

AWARDS.

Forestry Employees' Award.—The Forestry Employees' Award was varied during the year, the amended award coming into effect as from the 1st October.

The probationer grade was eliminated, reference to contract timber-getters was deleted from the award, and a clause providing for absolute preference to financial members of the Australian Workers' Union was inserted.

Local Authorities and Main Roads Board Award.—The Forest Service was affected by a variation of the above award, which took effect as from 6th October, 1924, and provided that forestry employees engaged solely in construction of roads should be paid in accordance with the Local Authorities and Main Roads Board Award. Some minor variations of this award were made at the same time.

Government Sawmilling Award.—This award was not varied.

II.—TECHNICAL OPERATIONS.

SILVICULTURE.

The past year has been one of preparation for large scale reforestation operations now being arranged. In no way is this better illustrated than in the increase of nursery stocks. At the beginning of the year there were 180,000 plants on hand in all nurseries. The increase during the year has been approximately 1,000,000. Subsequent to an excellent seed fall of Hoop Pine at the beginning of the year the nursery stocks of this species were increased from 20,000 to 765,000. Bunya Pine seedling production also has shown a considerable increase from 6,000 to about 200,000.

Experimental silviculture has proceeded so far as to justify expansion into an economic reforestation programme. In the past year an aggregate of 180 acres of softwood plantation were laid down in various localities, and the stocks in the nurseries at the close of the year were sufficient to allow of provision being made for planting up 1,400 acres in 1926, which will be the first large planting year.

A very interesting fruit-growing-cum-forest plantation experiment was commenced at Imbil, and the results to date are encouraging. Clear felling of jungles, planting, and tending of plantations absorb funds heavily. In many of the jungle pockets, bananas can be grown profitably for a period of five to seven years, after which plantations of softwoods may be made which will yield higher percentage incomes than any agricultural crop. By using the patches for the production of banana crops, with a co-ordinated or subsequent planting of forest trees at the most opportune time during the banana rotation, the following benefits should be obtained:—

- (1) From a national economy aspect—the complete utilisation of the factors of the locality, with a consequent production of food material, and the employment of labour;
- (2) From a financial aspect—realisation of revenues from which may be paid the costs of tree-planting;
- (3) From a silvicultural point of view—an easy and safe reforesting as a result of the thorough working of the soil and the continual destruction of weeds.

An experimental station was established at Beerwah for the purpose of trying out the softwood species of Southern U.S.A., i.e., *Pinus caribæa*, Slash Pine, *Pinus taeda*, Loblolly Pine, *Pinus palustris*, Pitch Pine, and *Taxodium distichum*, Swamp or Bald Cypress. If these species produce the expected results large areas of waste coastal land may be afforested successfully with these valuable species.

Regeneration and improvement work was carried out over large areas of eucalypt country on Fraser Island and in the Dalby district during the year with excellent results.

Notes upon the operations carried out in this and in other Working Plan Areas are given below:—

FRASER ISLAND WORKING PLAN AREA.

Climatic—

The rainfall was nearly 20 inches above the average. Average annual rainfall equals 62.81 inches; rainfall for 1924, 81.66.

Nursery—

The quality of the stock produced has been improved by various means:—

- (1) By adding humus, stable manure, and lime to the soil;
- (2) By providing shelter against the hot drying winds;
- (3) By rearranging overhead shelter and thus reducing drip damage.

Healthy hoop pine seedlings 2 inches to 6 inches high were transplanted from Bowarrady Scrub into the nursery with complete success, and in the two years have reached a maximum height of 2 feet.

Sowing eucalypt seed in a prepared bed and then pricking out into tubes when the seedlings were about 1 inch high was found to be the best and cheapest nursery treatment.

Plantations—

At the end of 1923 the total area of plantations of both hardwoods and softwoods amounted to 749 acres. During 1924 some 380 acres were added, bringing the total to 1,129 acres. In addition, 332 acres were prepared for planting.

The following trees were planted out during the year:—

Species.	No.
<i>Araucaria Cunninghamii</i>	5,484
<i>Agathis robusta</i>	14,209
Exotics and other softwoods	6,987
<i>Eucalyptus resinifera</i>	15,003
<i>Eucalyptus microcorys</i>	
Total	41,683



A Bed of Bunya Pine Plants 16 to 18 months old, tubed ready for planting—Forest Nursery, Brooloo Forest.

In the past clear felling has been practised out on heavily timbered areas designed for replanting. This method was found to be costly, and because of the exposure to the blazing sun the plants were unduly handicapped. Ringbarking and brushing has now been resorted to as a more economical method of preparation of site for planting.

Practically 50 acres of Kauri Pine, Hoop Pine, Quondong, and Beech (*Gmelina Leichhardtii*) were planted, 175 acres of *Eucalyptus resinifera* and *Eucalyptus microcorys* were planted out, whilst some 735 acres of old areas 27 and 19, which had been formerly treated, were seed spotted with Blackbutt (*Eucalyptus pilularis*), *Eucalyptus Cloeziana*, and Cypress Pine (*Callitris arenosa*); and 45 acres with *Grevillea robusta*.

An arboretum was established for the purpose of comparing rates of growth of certain softwood species and of determining the suitability of new species.

In planting Kauri Pine, the best results seem to have been obtained when the plants were established under a light shelterwood, the shelterwood being removed as soon as the plants were established. Among other species tried out were *Gmelina Leichhardtii*, *Elaeocarpus grandis*, *Flindersia acuminata*, *Flindersia Mazlini*, *Flindersia Brayleyana*, *Harpullia pendula*, and *Cardwellia sublimis*, and *Leptospermum citratum*.

NATURAL REGENERATION—

Eucalypt Working Circle.—On McKenzie and Standford Logging Areas a total area of 1,701 acres of eucalypt country was treated for natural regeneration by an initial improvement ringbarking. Of 1,034 acres of this area the final regeneration ringbarking was also carried out, whilst the regeneration burn was completed on 186 acres. A good seedfall occurred subsequent to the burning, and where the burn was successful, excellent regeneration has appeared.

Cypress Pine Working Circle.—In Wungoolba Logging Area an improvement felling to encourage natural regeneration and to liberate the regeneration already present was carried out.

MARY VALLEY WORKING PLAN AREA.

RESERVE 135, BROOLOO—

Climatic.—The rainfall for the year was evenly distributed throughout the year, amounting to 45.27 inches. The heaviest frost experienced during the year occurred in September.

Nursery.—One hundred and sixteen beds have been covered to date with movable low shades. A shed for tubing was constructed during the year.

Twenty-five thousand tubes were on order at the end of the year and 36,190 on hand.

Nursery operations were confined entirely to *Araucaria* species. At the close of the year the stock on hand consisted of:—

<i>Hoop Pine</i> —		No.
In seed beds	110,470	
Tubed	15,800	
In nursery lines	21,490	
Total	147,760	
<i>Bunya Pine</i> —		
In nursery lines	34,910	
Tubers (estimated)	20,000	
Total	54,910	
<i>Maple (Flindersia Brayleyana)</i> —		
Tubed	240	

Hoop Pine.—The percentage germination of Hoop Pine has been very low this year. It has been found that from April to July poor germination results are obtained, but this period gives best transplanting success. Past experience points to the fact that only plants from 12 inches to 18 inches in height should be used in plantation operations.

Bunya Pine.—The transplants were obtained in the following manner:—The seed was covered with soil to a depth of 6 inches to 8 inches in February, dug up in July, roots pruned and transplanted. At the end of the year 90 per cent. survived, and had attained an average height of 8 inches.

BENARKIN AND BUNYA MOUNTAIN WORKING PLAN AREAS.

Climatic.—Generally speaking the season was an unusually good one, but the actual rainfall only totalled the average. Fairly good light soaking rains were experienced in June and July. During the spring unusually copious downpours occurred.

Locality.	Rainfall, 1924.	Average Rainfall.	Number of Wet Days.	Average Number of Wet Days.
Benarkin	28.14	28.88	55	53.6
Yarraman	37	27	..	..
R. 151, Neumgna	38.42	..	71	..

NURSERIES—

1. R. 283, Colinton.—Considerable additions were made to the nursery, including the formation of three cement beds. At the end of the year there were present in the nursery 68,450 tubed plants, 33,450 plants in transplant beds, and 302,500 in the seed beds.

Owing to the uncertainty of the climatic conditions, the tube has been adopted as a transplanting instrument for all species. The average cost for transplanting plants up to nine months old to tubes is found to be 15s. per 1,000.

Consolidated railway ashes were found to be unsuitable for beds upon which to stand tubed plants, and three concrete beds 48 feet by 4 feet, costing £5 each, have been laid down as a trial for this purpose.

An improvement has been effected in the overhead shades so that the drip now falls into the paths.

NOTES ON SPECIES IN THE NURSERY—

Hoop Pine (Araucaria Cunninghamii).—Early transplanting to tubes has not proved successful. Owing to the hot weather about 10 per cent. were lost in transplanting to nursery lines in November. Seed tests carried out during the year point to the fact that Hoop Pine seed, stored dry, retains its germinative capacity, fairly well for at least a year.

Bunya Pine (Araucaria Bidwilli).—Very successful results have been obtained by transplanting tubers into tubes. In November 8,900 tubers were removed to tubes at the rate of 1,000 per day. At the end of the year these were up to 6 inches in height.

Pinus longifolia.—Seed was sown in April and seedlings were transplanted to tubes in May. Remarkable growth ensued, a height of 6 inches being attained in six months. However, it appears that transplanting before tubing is necessary.

Pinus insignis has done equally well transplanted into tubes and into nursery lines at the age of six months.

Pinus canariensis gives a higher germination per cent. when sown in spring than when sown in winter.

Pinus maritima.—Some 9,000 were transplanted to open nursery lines in October at the age of five months with fair results. About 30 per cent. were lost during the very hot weather.

Pinus halepensis has not proved successful. The species is difficult to transplant.

The following species have also been tried, but grow slowly in the nursery and generally show little promise:—*Pinus densiflora*, *Pinus Thunbergii*, *Pinus Merkusii*, *Pinus palustris*, *Pinus ponderosa*, *Pinus Coulteri*.

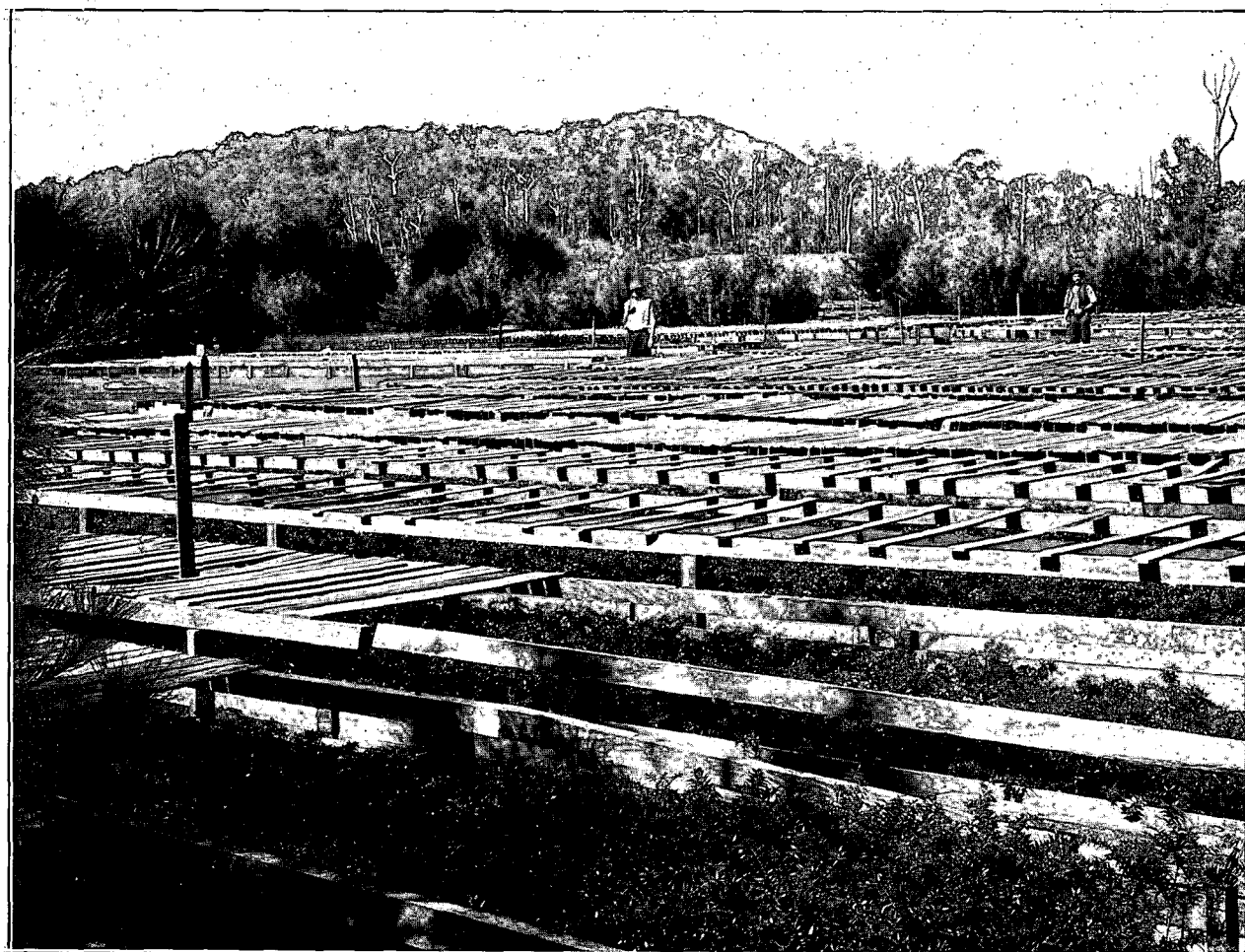
Both *Pinus patula* and *Pinus insularis* were tried for the first time with satisfactory results.

Other species dealt with include *Cryptomeria Japonica*, *Callitris arenosa*, *Callitris glauca*, *Cedrela odorata* (very frost tender), *Flindersia Brayleyana*, *Juniperus procera*, *Juniperus virginiana*, *Eucalyptus paniculata*, *Eucalyptus microcorys*, *Eucalyptus crebra*, and *Eucalyptus Cloeziana*.

At R. 151, Neumgna. A nursery, approximately 800 square yards in area, was established near the forest station. At the end of the year the nursery stock amounted to 66,700 plants, mainly *Araucaria Cunninghamii*, with a particularly healthy appearance. Other species tried were *Araucaria Bidwilli*, *Pinus insignis*, and *Pinus maritima*.



High Shade Nursery, Imbil (showing various tubes and tube carriers).



Seed Beds, Forest Nursery, Brooloo Forest.

3. R. 299, *Avoca*.—Twenty-one beds were formed and low shades constructed, but later in the year the latter were replaced by high shades. Little seed was sown and only 6,600 seedlings were on hand at the end of the year. A start was, however, made to stock the nursery at the end of the year when 120 lb. of Hoop Pine seed were sown.

Plantations.—The area of plantations established during the year amounted to 65 acres. Most of the planting was carried out just prior to a hot dry spell, and the result demonstrated without a doubt that, in this district, the tube must be adopted. Many cases are recorded of species, which generally transplant with ease, failing completely when planted open root, whilst other species of a more tender nature showed almost 100 per cent. survival when planted from tubes.

A demonstration plantation of 5 acres was established adjacent to the Benarkin Railway Station. A start was made on an arboretum to cover approximately 10 acres adjoining the forest station. It is intended to lay out plots to determine—

- (1) Suitability of certain exotics to the locality;
- (2) Rates of growth of principal softwood species;
- (3) Correct spacing of important softwood species.

NOTES ON SPECIES IN PLANTATION—

Silky Oak (Grevillea robusta) shows greatest rate of growth to date. Ten months after planting, although weather conditions were not ideal, many trees had attained a height of 5 feet.

Callitris glauca and *Callitris arenosa* grow rapidly and gave the highest percentage of survivals.

Pinus canariensis.—Drought resistant, grows rapidly in the early stages, and is easily transplanted with tubes. Small plants should not be put out into plantation.

Pinus longifolia.—Drought resistant, but does not grow so rapidly as *Pinus canariensis* in the early stages.

Pinus insignis.—Fastest growing exotic tried, some specimens five years old having attained a height of 25 feet.

Araucaria Cunninghamii.—Two-year old plants give much better results in plantation work than one-year old plants.

Underplanting.—Several species were planted out from tubes under the heavy scrub in brushed lines, but with only 12 per cent. success.

R. 257, *Cooyar*.—A small experimental plot, containing *Pinus insignis*, *Pinus halepensis*, *Pinus canariensis*, *Pinus longifolia*, *Cupressus sempervirens*, and *Callitris glauca* was laid down. Approximately 44 acres of forest country has been cleared for a plantation site for exotics.

R. 289, *Cooyar*.—The experimental plantation area of 10 acres laid down in March provides interesting figures, illustrating the effect that the tube has upon percentage survival.

Survivals at end of 1924.

Tubed plants.		Open root plants.	
<i>Grevillea robusta</i>	65 per cent.	<i>Cryptomeria japonica</i>	0 per cent.
<i>Pinus canariensis</i>	71.5 "	<i>Pinus halepensis</i>	25 "
<i>Pinus longifolia</i>	90 "	<i>Pinus densiflora</i>	} 1.6 "
<i>Callitris glauca</i>	93.3 "	<i>Pinus Thunbergii</i>	
<i>Callitris arenosa</i>	96.6 "	<i>Pinus insignis</i>	8.4 "
		<i>Araucaria Cunninghamii</i>	12.9 "
		<i>Araucaria Bidwilli</i>	22 "

With a view to overcoming the ravages of the twig borer a plot of 1½ acre of Red Cedar (*Cedrela australis*) mixed with *Grevillea robusta* was planted in low dense regrowth.

R. 151, *Neumgna*.—About 50 acres of open forest country were brushed and ring-barked in preparation for planting.

Underplanting and seed spotting experiments were also carried out.

R. 299, *Avoca*.—An experimental plot of seven species further established the advantage of tube planting over the open root method.

NATURAL REGENERATION—

R. 283, Colinton, *Eucalyptus Working Circle*.—During the year an area of 150 acres was ringbarked for natural regeneration, whilst 330 acres of regeneration were thinned out. In addition the undesired species on an area of 41 acres were poisoned.

Hoop Pine Working Circle.—On Emu Creek Logging Area an area of 11½ acres of Hoop Pine regeneration was liberated.

R. 289, Cooyar, *Hoop Pine Working Circle*.—An experiment to determine the possibilities of the strip method of natural regeneration gave very disappointing results. Further investigations on natural regeneration of this species were carried out with at least one definite result, i.e., that wallabies destroy large quantities of seedlings.

R. 299, Avoca.—A further area of 120 acres of splendid Hoop Pine regeneration was assisted by liberation cuttings.

SEED COLLECTION.

Reserve.	Species.	Quantity Collected.	Cost per Lb
R. 289	Hoop Pine	1,469 lb.	3½ d.
	Bunya Pine	1,450	1½
R. 151	Hoop Pine	1,670	3
	Bunya Pine	1,500	4

ATHERTON DISTRICT WORKING PLAN AREAS.

Climatic.—The year proved to be very wet with double the number of wet days of the previous year.

	LOCALITY.				
	R. 191, Barron.	R. 310, Gadgarra.	Atherton.	Innisfail.	Ban Yan.
Rainfall (inches)	56·58	72·48	47·91	151·92	168·16
Number of wet days	162	172	121	123	148

Nurseries.—A new nursery was constructed on R. 194, Barron, with an area of approximately ¼ acre, to replace the old nursery. In addition a small nursery was established on R. 310, Gadgarra.

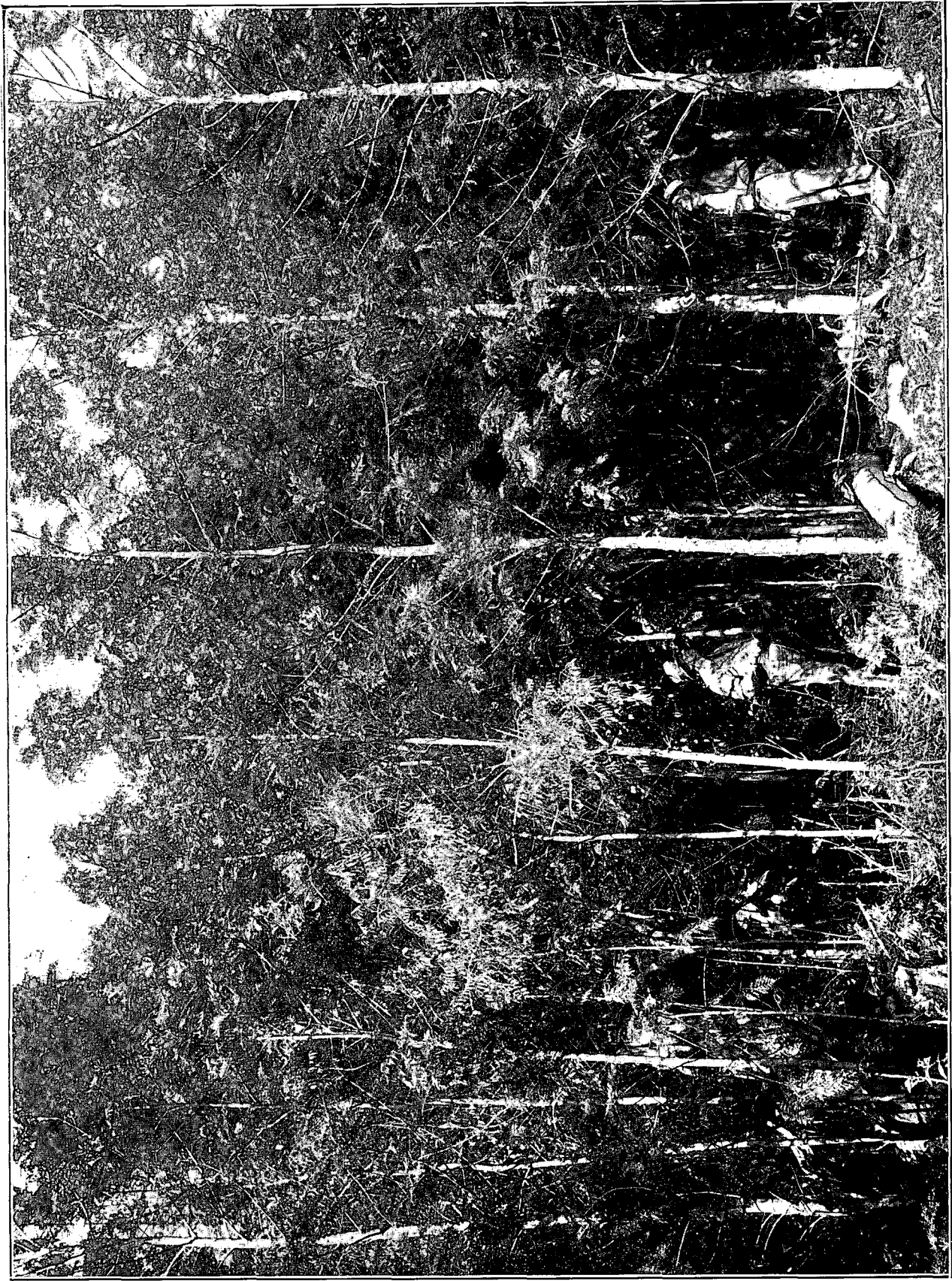
Plantations.—Little work was done during the year. Some 28 acres on R. 191, Barron, were replanted, but only 2 acres were established. Seed spotting proved an entire failure. Two acres of *Flindersia Brayleyana* established on R. 310, Gadgarra, demonstrated the possibility of reducing plantation expenses, three-year old forest transplants being used with success.

Natural Regeneration.—An area of 265 acres on R. 310, Gadgarra, and R. 418, Danbulla, was treated for natural regeneration of *Flindersia* species by felling and brushing, whilst on the latter reserve 60 acres of natural regeneration were liberated.

Seed Collection.—A quantity of 77 lb. of *Podocarpus amara* seed was collected at a cost of 4·4d. per lb., 11 lb. of *Flindersia Brayleyana* at a cost of £1 18s. 5d. per lb., and 8 lb. of *Elæocarpus grandis* at 4s. 3d. per lb.

DALBY DISTRICT WORKING PLAN AREAS.

It was not until this year that the ringbarking and improvement work of the past three years in the forest country bore results. The seedfall in previous years had been very sparse, and any germination which took place had been burned off immediately. During 1924 natural regeneration of *Eucalyptus crebra* and *Eucalyptus maculata* and *Callitris glauca* was prolific.



Assisted Regeneration of Silky Oak (*Grevillea robusta*), 4 years old—Brooloo Forest.

RESERVE 93, NUDLEY—

Plantations.—An experimental plot containing *Eucalyptus maculata*, *Eucalyptus crebra*, *Callitris glauca*, *Araucaria Cunninghamii*, and *Pinus insignis* was established.

Natural Regeneration.—Improvement work was continued over an area of 549 acres at a cost of 5s. 9d. per acre, and good regrowth of *Eucalyptus maculata* and *Callitris glauca* is already noticeable. It was established that grazing by stock does a great deal of damage to *Eucalyptus crebra* reproduction. Experimental plots were established to determine the correct thinning practice for *Callitris glauca*.

Reserve 337, Yeulba.—An area of 375 acres was treated to assist natural regeneration of *Callitris glauca* at a cost of 5s. 9d. per acre.

Reserve 4, Braemar.—No silvicultural work was done on this reserve, but the area of 450 acres treated in 1921 is now showing excellent regeneration.

KILKIVAN—GYMPIE WORKING PLAN AREAS.

RESERVE 26, KILKIVAN—

Nursery.—Thirteen lb. of Hoop Pine seed gave a germination of 26 per cent., whilst a further 30 lb. of older seed showed only 1.5 per cent.

Plantations.—A small trial plot of 100 plants of Hoop Pine and 39 plants of *Pinus insignis* was laid out.

Natural Regeneration.—An area of about 30 acres of Hoop Pine regeneration, carrying 300 trees to the acre, was liberated.

RESERVE 355, KILKIVAN—

Rainfall.—Total rainfall during year, 19.39 inches.

Nursery.—The following species were tried:—*Araucaria Cunninghamii*, *Araucaria Bidwilli*, *Pinus patula*, *Pinus longifolia*, *Pinus canariensis*, *Pinus insignis*, *Pinus taeda*, *Pinus insularis*, *Grevillea robusta*.

Approximately 17,100 plants were on hand at the end of the year.

Plantations.—The total area of plantations was brought up to 7½ acres by the addition of ½ acre of Hoop Pine and Silky Oak during the latter part of the year.

RESERVE 220, KILKIVAN—

Rainfall.—May was the driest month of the year, only 34 points being registered, whilst January was the wettest with 648 points. Total rainfall, 42.55 inches. Number of wet days 117.

Nursery.—During the year 15,400 Hoop Pine natural seedlings were collected in the scrub, and transplanted into the nursery. A number of other species was also tried out.

Plantations.—The area of plantations was increased from 29½ acres to 37 acres by the planting of 5,430 plants of which 86 per cent. were Hoop Pine.

Seed Collection.—Seventy-two pounds of Hoop Pine seed was collected at a cost of 1s. 7d. per lb.

Natural Regeneration.—A combined liberation and thinning was carried out over an area of 83 acres to assist Hoop Pine regeneration.

RESERVE 221 AND 418, KILKIVAN—

Rainfall.—Rain fell on 103 days, registering 43.57 inches.

Nursery.—Hoop Pine, Bunya Pine, White Cedar (*Melia azedarach*), and *Pinus insignis* were dealt with during the year. Up to 75 per cent. germination was obtained with Hoop Pine, and 80 per cent. with White Cedar.

At the end of the year there were 13,940 plants in the nurseries, 94 per cent. being *Araucaria* species. A number of Hoop Pine natural seedlings were collected in the scrub and transferred to the nursery at a cost of 4s. per 1,000.

Plantations.—Nearly 3 acres were planted during the year. Hoop Pine showed only 10 per cent. mortality, but Silky Oak gave barely 30 per cent. survival.

Natural Regeneration.—The area of Hoop Pine regeneration liberated was brought up to 500 acres.

MACKAY DISTRICT.

Climatic.—Normal weather conditions prevailed, the annual rainfall at Mackay being 58 inches. At the forest station, Eungella, 82 inches were recorded.

Nursery.—At the nursery on R. 6, Eungella, high shade shelter beds were substituted over half the area in lieu of low shades.

Seed of *Araucaria Cunninghamii*, *Araucaria Bidwilli*, *Callitris* species, *Pinus insignis*, *Flindersia Brayleyana*, *Pleiogynium solandri*, *Cedrela australis*, and Silver Beech (*Elæocarpus grandis*) were sown. *Pinus insignis* and *Callitris* species gave the highest germination percentages.

Plantations.—Seed spotting of *Araucaria Cunninghamii*, *Flindersia Brayleyana*, and *Cedrela australis* over an area of 5 acres failed. A further area of 2 acres has been clear-felled for experimental work.

MARYBOROUGH DISTRICT.

RESERVE 287, WOOWONGA—

Climatic.—Total rainfall for the year amounted to 49.05 inches.

Nursery.—Hoop Pine (*Araucaria Cunninghamii*), *Pinus patula*, *Pinus longifolia*, *Pinus canariensis*, *Pinus insignis*, *Pinus insularis*, *Juniperus procera*, and *Cedrela odorata* were tried out during the year. The last five species failed or were destroyed by mice.

Hoop Pine gave germination results up to 35 per cent. *Pinus longifolia* and *Pinus patula* showed 75 per cent. germination. Four thousand natural seedlings of Hoop Pine were collected and transplanted into the nursery.

Plantations.—An area of 8 acres was planted up open root with 7,300 Red Cedar (*Cedrela australis*) and 500 Kauri plants. Red Cedar showed 60 per cent. survival whilst Kauri Pine gave only 35 per cent. success. On the same area 4 lb. of Silky Oak and 4 oz. of Crow's Ash (*Flindersia australis*) were broadcasted with practically no result.

BRISBANE DISTRICT.

Reserve 69, Bunya.—Eucalypt improvement work was continued on this reserve, an area of 200 acres being treated with improvement cuttings.

Reserve 318, Maroochy.—Natural regeneration and improvement cuttings proceeded over an area of 775 acres during the report period.

Reserve 561, Bribie.—A station was established at the end of the year for the purpose of investigating the possibilities of afforesting the coastal lands with *Pinus caribæa*, *Pinus taeda*, *Pinus palustris*, and *Taxodium distichum*.

ROCKHAMPTON DISTRICT.

RESERVE 20, MARYVALE—

Climatic.—Rainfall for the year totalled 69.35 inches. At Rockhampton a total of 40.93 inches was recorded.

Nursery.—A large number of softwood species were dealt with during the year, and also four species of Eucalyptus.

Plantations.—A total area of 26½ acres was planted up with 10,000 open root plants. The species tried were Hoop Pine, Kauri Pine, *Taxodium distichum*, *Callitris arenosa*, *Pinus insignis*, *Gmelina Leichhardtii*, *Cupressus sempervirens*, *Pinus halepensis*, and Eucalypt species.

Little development is as yet evident, *Callitris arenosa* giving much greater promise than any other species.



A Blackbutt Plantation on Fraser Island. (Trees 40 feet high, 20-inch girth; age 4 years.)

NURSERY STOCK AS AT 31ST DECEMBER, 1924.

Species.	NUMBER OF PLANTS IN DISTRICT NURSERIES.								Totals.
	Atherton.	Benarkin.	Mary-borough.	Fraser Island.	Gympie.	Imbil.	Mackay.	Rock-hampton.	
<i>Agathis robusta</i> ..	..	..	..	19,900	..	..	..	1,140	21,040
<i>Agathis Palmerstoni</i> ..	..	..	..	7,000	..	..	..	..	7,000
<i>Araucaria Bidwilli</i> ..	..	147,600	..	..	950	54,900	1,000	..	204,450
<i>Araucaria Cunninghamii</i> ..	185,000	276,000	6,100	67,100	23,000	181,900	3,000	23,500	765,600
<i>Callitris arenosa</i> ..	..	330	..	..	..	..	100	400	830
<i>Callitris Macleayana</i> ..	..	..	..	4,000	900	..	..	..	4,900
<i>Cedrela australis</i> ..	..	..	3,000	..	..	..	1,000	..	4,000
<i>Cedrela odorata</i> ..	50	45	..	90	..	..	..	6	191
<i>Cupressus macrocarpa</i> ..	..	..	..	3,300	..	..	..	..	3,300
<i>Cupressus sempervirens</i> ..	..	2,140	..	2,800	..	..	..	..	4,940
<i>Eucalyptus crebra</i> ..	..	300	..	..	..	..	..	..	300
<i>Eucalyptus citriodora</i> ..	..	..	..	..	..	..	..	80	80
<i>Eucalyptus Cloeziana</i> ..	..	1,860	..	1,900	..	..	..	..	3,760
<i>Eucalyptus microcorys</i> ..	400	3,680	..	14,700	..	..	..	20	18,800
<i>Eucalyptus paniculata</i> ..	..	5,790	..	..	..	..	..	..	5,790
<i>Eucalyptus pilularis</i> ..	15,500	..	..	..	..	..	..	140	15,640
<i>Eucalyptus resinifera</i> ..	..	..	..	6,600	..	..	..	..	6,600
<i>Flindersia acuminata</i> ..	40	..	..	65	..	..	..	..	105
<i>Flindersia Brayleyana</i> ..	..	50	..	..	..	320	..	..	370
<i>Gmelina Leichhardtii</i> ..	..	..	..	40	..	..	..	..	40
<i>Grevillea robusta</i> ..	290	..	150	20	..	..	..	..	460
<i>Halfordia drupifera</i> ..	..	..	..	600	..	..	..	..	600
<i>Harpullia pendula</i> ..	..	..	..	10	..	..	..	..	10
<i>Juniperus procera</i> ..	..	1	..	20	..	..	..	..	21
<i>Juniperus virginiana</i> ..	..	6	..	..	..	..	..	..	6
<i>Pinus canariensis</i> ..	..	90	..	140	280	..	..	..	510
<i>Pinus Coulterii</i> ..	..	25	..	..	..	..	..	..	25
<i>Pinus insignis</i> ..	100	23,200	..	430	1,500	..	600	410	26,240
<i>Pinus insularis</i> ..	..	620	..	1,320	220	..	..	750	2,910
<i>Pinus densiflora</i> ..	..	..	..	190	..	..	..	..	190
<i>Pinus halepensis</i> ..	..	900	..	1,100	200	..	..	330	2,530
<i>Pinus longifolia</i> ..	..	4,000	200	..	2,040	..	..	830	7,070
<i>Pinus maritima</i> ..	..	9,700	..	..	..	..	..	..	9,700
<i>Pinus patula</i> ..	2,500	2,900	250	90	4,170	..	..	900	10,810
<i>Pinus Merkusii</i> ..	..	100	..	430	..	..	..	25	555
<i>Pinus Thunbergii</i> ..	..	1,000	..	190	..	..	..	..	1,190
<i>Pinus iceda</i> ..	..	..	..	..	250	..	..	1,600	1,850
<i>Pleiogynium solandri</i> ..	..	..	..	..	..	..	100	..	100
<i>Podocarpus Ladei</i> ..	..	..	..	27	..	..	..	..	27
<i>Quebrachia Lorentzii</i> ..	..	..	..	8	..	..	..	..	8
<i>Tectona grandis</i> ..	150	..	..	..	..	..	..	..	150
Totals ..	204,030	480,032	9,700	125,070	33,510	237,120	5,800	30,131	1,125,393

WOOD TECHNOLOGY.

The Universal Wood Index System of the Department underwent final revision during the year, the adopted factors of wood determination being recast, and new factors included. In its now completed form, the Universal Wood Index becomes the principal agency of the Forest Service in its work of timber technology.

In order that effective comparison might be made between those timbers already well-known upon the markets of the world, and the many woods of Queensland whose economic values are yet little understood, there have been classified under the Index a considerable number of exotic species, and these now appear in their due place in the Index among the indigenous timbers which they most resemble in weight and structure, and with which they may be compared.

In this way it becomes possible to recommend to industries suitable replacements of specially imported woods by local timbers having similar characters fitting them for special purposes.

In association with the Wood Index very full descriptions of a large number of timbers are being prepared under standard headings for the information of wood workers. These give the botanical, trade, and other names of the tree, its size, nature, and habitat; a full description of the colour, figure, texture, weight, strength, and uses of the timber; its chief advantages and disadvantages; and a technical description of the wood as seen under a hand lens.

Over thirty principal timbers were thus described during the year.

As a result of this work, and of experiments made, a demand has been created for a number of woods which hitherto have been passed by.

THE IDENTIFICATION AND PRESCRIPTION OF NATIVE WOODS FOR INDUSTRIAL PURPOSES.

Enquiries were received from numerous industrial sources for advice as to the Queensland timbers most suitable for use as substitutes for woods which are becoming scarce, or in replacement of imported species.

Some of the lines which were prescribed for are—

Furniture and cabinetmaking	Rulers
Plywood	Telegraph poles
Aeroplane construction	Saddle trees
Wagon construction (spokes, felloes, &c.)	Mauls and mallets
Manufacture of pianoforte sharps	Hammer staves
Inlay work	Turnery
Walking sticks	Building
Tool handles	Cooperage
Golf shafts and heads	Fishing rods.

During the year over sixty specimens of timber were received by this Branch for identification. Of these a large number came from commercial sources, the remainder from private persons and from Forest Officers.

Brief accounts of each timber and its uses were given as part of the identification reports.

TESTING, EXPERIMENTAL, AND GENERAL RESEARCH WORK.

Numbers of tests have been carried out to ascertain the suitability of woods for different uses.

Further investigations into the possibilities of the Tulip Oaks (*Tarrietia* sp.) as electric insulators reveal the fact that Red Tulip Oak (*Tarrietia peralata*) is superior even to Brown Tulip Oak (*Tarrietia argyrodendron*) for this purpose, although the latter is thought to be better adapted for machining and lathe work. A test rod 4 inches long of *Tarrietia peralata* tested by the City Electric Light Co. withstood a pressure of 33,000 volts for a period of two minutes while its Southern relative *Tarrietia argyrodendron* broke down after one minute.

Both results are regarded as highly satisfactory.

Blush Coondoo (*Sideroxylon Richardii*) has been found serviceable for cooperage, and also was found to fume well.

Grey Satinash (*Eugenia* sp.) and White Hazelwood (*Symplocos spicata*) have been tested and pronounced suitable for motor body building.

A number of local timbers of the Persian Boxwood type were tested by firms in London and Melbourne, and the following were found to be adapted to the manufacture of rulers:—Orange Boxwood (*Celastrus dispermus*), White Hollywood (*Pittosporum rhombifolium*), Ivorywood (*Siphonodon australe*), Silver Bulletwood (*Sideroxylon australis*), Yellow Marara (*Sideroxylon Pohlmanianum*), White Cornelwood (*Citrus australis*).

Several close-grained scrubwoods were also declared to be fit for the manufacture of piano sharps.

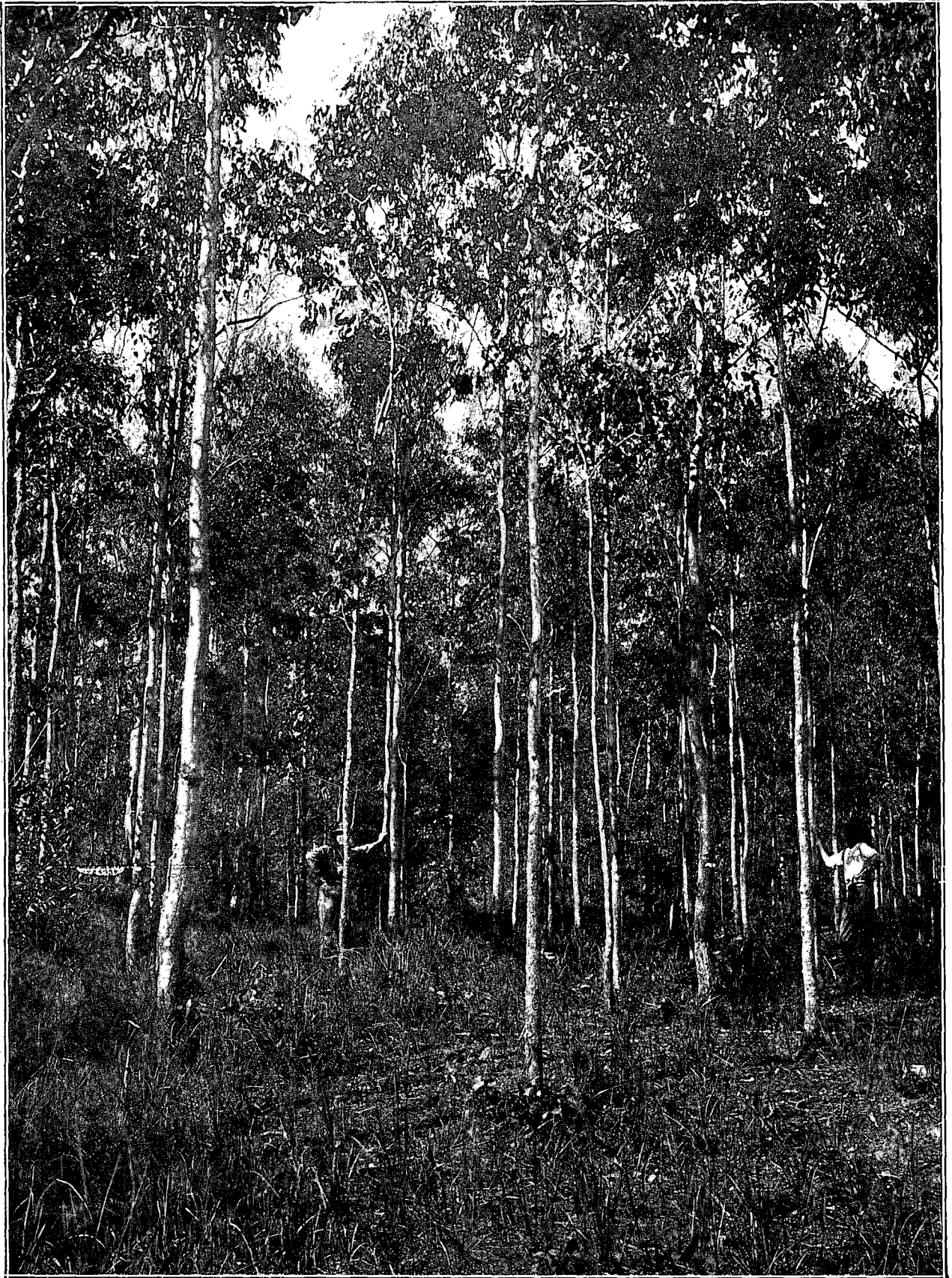
In the Atherton district a local test is being carried out to ascertain the durability in the weather of twenty-two varieties of scrub hardwoods. These have been placed in wet and dry places and their condition is being reported upon every six months.

Yellow Poonwood (*Xanthostemon pachyspermus*) by immersion in water is being tested as to its resistance to the attacks of the teredo. A log submerged under the Cairns wharves in September, 1924, shows as yet no defect.

The following little-used native timbers were made up into various articles of furniture for exhibition:—Red Satinay (*Syncarpia Hillii*), Medang Walnut (*Endiandra Palmerstoni*), Rose Butternut (*Nephelium Lautererianum*), Rose Mahogany (*Dysoxylon Fraserianum*), Red Satinash (*Eugenia* sp.), Grey Satinash (*Eugenia* sp.), Red Siris (*Albizia Toona*), Satin Carrobean (*Cryptocarya* sp.).

Some new species have been added to the list of plywoods. These include Red Satinay (*Syncarpia Hillii*), Medang Walnut (*Endiandra Palmerstoni*), and Canary Ash (*Cryptocarya Bancroftii*). The first two have a particularly handsome figure and the latter has a rich yellow colour.

When thoroughly seasoned and oil polished, very durable and beautiful floors can be made of Red Satinay (*Syncarpia Hillii*), Red Tulip Oak (*Tarrietia peralata*), Rose Mahogany (*D. Fraserianum*), and Rose Walnut (*Cryptocarya erythroxylon*).



Assisted Regeneration (4 years old) of *Eucalyptus tereticornis*—Derrier.

Tulip Plumwood (*Pleiogynium solandri*) is now recognised to be unsurpassed for fancy turnery, while White Aspen (*Pleiococca Wilcoxiana*), one of Queensland's whitest timbers, has gained favour for carving and inlay work.

A preliminary test carried out by the Lithgow Small Arms Factory indicated that Rose Walnut (*Cryptocarya erythroxylon*) and Grey Satinash (*Eugenia* sp.) have possibilities for the manufacture of gun stocks.

These two timbers were found to be easily worked with machine and hand tools and to be about the correct weight for the purpose. Further investigations are being made into the suitability of a number of other species for the manufacture of gun stocks.

In the furniture trade a number of orders for Blush Coondoo (*Sideroxylon Richardii*) have been filled by the Fancywoods Section of the Department. Blush Coondoo is fast becoming popular on account of its fuming qualities. Rose Walnut (*Cryptocarya erythroxylon*) Rose Mahogany (*Dysoxylon Fraserianum*), and Blush Cudgerie (*Euroschinus falcatus*) are also now in demand for furniture making.

Several hundreds of fishing rod pieces, chiefly of Saffron Heart (*Halfordia scleroxyla* and *drupifera*) have been sold by the section, and that the demand is increasing is evidence of the popularity of these local woods as substitutes for imported greenheart. Enquiries have also been received for Queensland Greenheart (*Endiandra compressa*), Brigalow Spearwood (*Acacia harpophylla*), Green Satinheart (*Geijera Muelleri*), and Spotted Gum (*Eucalyptus maculata*).

ACKNOWLEDGMENT.

The Forest Service is indebted to the Government Botanist (Mr. C. T. White) for the identification of almost a hundred specimens of leaves, flowers, and fruit of various species. These were received chiefly from Oakview, Atherton, Yandina, Kenilworth, and from officers of the Head Office. They have been added to the Forest Service Herbarium lists.

FOREST PRODUCTS.

ESSENTIAL OILS, EXUDATES, TANNINS, ETC.

The Technological Museum, Sydney, has for some time been engaged in the study of the oil-yielding plants of Australia. These oils are regarded as very valuable, and a large number of the trees and plants concerned occur in Queensland. Following are extracts from Bulletin No. 5 from the Technological Museum which give some idea of the results obtained in the research into the lemon-scented oils from the Queensland species, the material being obtained from this Department and from other sources.

Botanical Name.	Description of Plant.	Per cent. of Oil Yield.	Citral per cent. of Oil.
<i>Backhousia citriodora</i>	A small tree growing on the Blackall Range and in Mary Valley	1 to 1.2	95 to 97
<i>Leptospermum citratum</i>	A species of tea-tree found near Palmwoods	.8 to 1.46	*95
<i>Eucalyptus citriodora</i>	† A large tree found near the coast from Bundaberg to Rockhampton	1 to 1.5	Citronellal 95 to 98
<i>Eucalyptus Staigeriana</i>	The Lemon-scented Ironbark—a medium-sized tree of the Palmer River	2.5 to 3	28 to 38
<i>Leptospermum Liviersidgei</i> (Type B)	A species of tea-tree found on Stradbroke Island	.55 to .64	75 to 82

* Approx. equal parts of Citronellal and Citral.

† Specimens have been collected at Howard.

It is considered that the lemon-scented oil obtained from *Backhousia citriodora* is superior to that obtained from any other source.

The price of Citral was 18s. per lb. in Sydney in September, 1924, while the London wholesale price is about 10s. per lb.

"There is a good future in store for this oil, provided a regular supply can be guaranteed, which can only be done by the establishment of plantations, and this is the only means to enable the oil to be produced at competitive rates. The establishment of plantations of *Backhousia citriodora* is one which can be recommended, and the benefit of experience gained here will be readily given to any undertaking such an enterprise."—
(Extracted from letter from Curator, Technological Museum.)

The Forest Service is now contemplating the establishment of commercial plantations of these oil-producing species.

Work has been commenced by the Technological Museum on other oil-producing trees and shrubs, and the progress to date is given below:—

Botanical Name.	Description of Plant.	% Oil Yield.	Oil Content.	Remarks.
<i>Homoranthus virgatus</i>	A small shrub found on Stradbroke Island and in Northern Rivers District of New South Wales	.76	60	Chiefly Pinene
<i>Eugenia cyanocarpa</i>	A small tree common along the coast from the border to Fraser Island	.95	..	Work proceeding
<i>Zieria Smithii</i>	A small shrub seldom over 4 ft. high. Very scattered in distribution. Found in sandy soil along the coast	..	..	Oil from first batch of leaves lost through delay en route. More being procured from Fraser Island
<i>Boronia pinnata</i>	A small shrub with scattered distribution found on Stradbroke Island and Fraser Island	.53	85	Saffrol, remainder Limonene
<i>Eugenia myrtifolia</i>	A small tree found along creeks in coastal scrubs of South Queensland	.03	..	Work proceeding. Oil partly lost through sweating
<i>Eucalyptus haemastoma</i>	A medium to large sized tree, found on poor country near Brisbane and on Fraser Island	..	..

Owing to a number of reports that certain timbers produced irritating or poisonous effects on those handling them, the Technological Museum, Sydney, is making investigations to discover the causes of these effects.

In reply to a Forest Service Circular to various Forest Officers the following timbers were said to be more or less objectionable to handle:—

Botanical Name.	Common Vernacular Name.	Remarks.
<i>Blepharocarya involucrigera</i>	Bolly Gum	North Queensland Forest Officers are unanimous in stating that this is poisonous if rubbed on the skin
<i>Garcinia Gibbsae</i>		The exudate of this tree is said to cause blood poisoning
<i>Acacia harpophylla</i>	Brigalow	Ipswich Railway Workshops state that this tends to cause eczema if much of it is worked
<i>Dysoxylon Muellieri</i>	Red Bean	Causes sneezing and irritates the nose when being dressed
<i>Flindersia australis</i>	Crow's Ash	Sometimes objected to slightly by mill hands
<i>Castanospermum australe</i>	Black Bean	Said to have a strong tendency to be poisonous when in a green state
<i>Canarium Muellieri</i>	Scrub Turpentine	Sap reputed poisonous when it enters a cut
<i>Cardwellia sublimis</i>	Silky Oak	Several state that this affects them. No complaints are made by workers of dry wood
<i>Acacia parpinata</i>	Rough Barked Wattle	An officer reports that these cause skin trouble leading to blood poisoning
<i>Eucalyptus terminalis</i>	Bloodwood	
<i>Eugenia gustavioides</i>	Water Gum	
<i>Halfordia scleroxylla</i>	Ghittoe	
<i>Erythrophloeum Labouchevii</i>	Cooktown Ironwood		Bark and wood reported to be very poisonous to stock

The Economic Chemist has examined specimens of the exudation of *Blepharocarya involucrigera* and *Garcinia Gibbsae*, but the material available proved too small to isolate any poisonous principle.

Further supplies are being obtained.

Investigations are also being carried out at the Queensland University into the properties of Sandalwood Oil and the exudates of the North Queensland woods *Canarium Muellieri* and *Evodia accedens*. It has been found that the former yields an oil chemically resembling the commercial turpentine, for which it could be used as a substitute. It also yields a resin which is considered valuable for the manufacture of varnishes and in lithographic work.

TANNINS.

Since early in 1923, the Institute of Science and Industry has been engaged actively in making a survey of the tannin-producing plants of Queensland.

Samples of bark, leaves, kino, and sawdust have been collected by Forest Officers throughout Queensland and forwarded for testing. The greater number of these were sent to the Forest Products Laboratory at Perth, which has acknowledged receipt of 107 specimens to date. These include a large number of species and consist of 95 specimens of bark, 1 of leaves, 5 of kino, and 6 of sawdust.

The Tannin Investigation Laboratory, Brunswick, Victoria, has to date acknowledged receipt of ten specimens of bark.

The results so far obtained are as follows:—

Out of seventeen different species of *Acacia*, fifteen on analysis were found to contain a tannin content ranging from 10 per cent. to 33 per cent.

The species and the range in tannin content are:—

Botanical Name.	Number of Samples Examined.	Tannin Content.	Remarks.
		Per cent.	
<i>Acacia aculeocarpa</i>	4	4.7 to 24.5 ..	The higher figures refer to a "rossed" sample.
<i>Acacia Bancroftii</i>	2	16.8 to 22.8	
<i>Acacia Cunninghamii</i>	1	13.2	
<i>Acacia decurrens</i>	1	23.4	
<i>Acacia decurrens</i> , var. <i>pauciglandulosa</i>	1	33.0	Large series of samples desired.
<i>Acacia falcata</i>	1	13.0	
<i>Acacia excelsa</i>	2	16.0 to 17.2	
<i>Acacia flavescens</i>	2	17.0 to 22	
<i>Acacia harpophylla</i>	3	14.0 to 17.1	
<i>Acacia implexa</i>	1	15.8	
<i>Acacia Maidenii</i>	3	8.3 to 14.2 ..	Large series of samples desired.
<i>Acacia penninervis</i>	1	17.0	
<i>Acacia podalyriifolia</i>	1	13.4	
<i>Acacia salicina</i>	2	18.8 to 21.2 ..	Large series of samples desired.
<i>Acacia unidentifed</i>	3	14.0 to 16.0	

Of the various samples of *Eucalyptus* examined to date, most of them were found to be poor in respect of tannin content. This also applies to most of the other miscellaneous samples examined.

Two samples of *Eucalyptus alba* were found to be low in tannin notwithstanding the fact that samples from Western Australia yielded over 30 per cent. tannin. Two sacks containing leaves, bark, and twigs of this species have since been forwarded from Atherton for further investigation.

The results of investigations into the tanning properties of the Mangroves of North Queensland are given below. These are said to show an increase in the percentage of tannin procurable as they extend northwards into the tropics:—

Botanical Name.	Percentage of Tannin.
<i>Rhizophora mucronata</i>	27 to 36
<i>Bruguiera Rheedii</i>	13 to 20
<i>Bruguiera parvifolia</i>	5 to 10
<i>Ceriops Candolleana</i>	21 to 26
<i>Sonneratia alba</i>	7
<i>Excoecaria agallocha</i>	13
<i>Carapa moluccensis</i>	23

BARK FIBRES.

Enquiries have been made by manufacturers in Victoria for Queensland barks which are to be tested to ascertain their suitability for the manufacture of packing and upholstering material and for use in fibrous plaster. One firm (Messrs. Foster's Australian Fibres Ltd.) is extending its operations to the manufacture of twine, and is installing spinning and weaving units for the making of corn sacks, &c.

A number of barks are being tested, and Tea Tree (*Melaleuca leucadendron*) has been rejected as useless by one firm, and Red Satinay (*Syncarpia Hillii*) by another. White Blackbutt (*Eucalyptus eugenioides*); however, has been found to be satisfactory.

It is interesting to note that *Eucalyptus eugenioides*, the bark of which provided suitable fibres, is representative of a number of trees which have very similar fibrous barks. These are *Eucalyptus acmenoides*, with its varieties *umbra* and *carnea*, *Eucalyptus resinifera*, *Eucalyptus Planchoniana*, *Eucalyptus Muelleriana*, *Eucalyptus microcorys*, and *Eucalyptus pilularis*.

SHOWROOMS.

The Forest Service Showrooms were transferred from the Executive Buildings to new quarters in William Street.

DISPLAYS OF FOREST PRODUCTS.

Displays of Forest products were made at the Brisbane Exhibition and in Queensland country centres—at Townsville, Gympie, Imbil, and Pomona.

Advantage was also taken of the Victorian Chamber of Manufacturers' Exhibition at Melbourne, which was of eight weeks' duration, commencing in September, to send an exhibit featuring Queensland timbers, principally Silky Oak, with the object of extending the market for this wood, which is rapidly becoming popular.

FOREST SURVEYS.

1st January to 31st December, 1924.

CLASS I.—INSPECTIONS OF VACANT CROWN LANDS AND TIMBER RESERVES.

	Parish.	Area in acres.
Vacant Crown lands	Neotsfield	12,000
Vacant Crown lands	Nebo, Pisgah, Mt. Britton	60,000
Vacant Crown lands	Kirrama	350,000
T. R. 10, 54, and 32	Columba, Wafer	157,000
T. R. 394	Lacy, Macartney, and Bloomsbury	49,000

CLASS II.—FLYING ASSESSMENT SURVEYS OF VACANT CROWN LAND, PROCLAIMED TIMBER RESERVES, AND STATE FORESTS.

	Parish.	Area in acres.
S. F. 351	Maroochy	500
S. F. 783	Maleny	1,920
T. R. 540	Maleny	1,000
T. R. 311	Durundur	1,000
T. R. 341	Durundur	157
S. F. 5	Mimosa	46,720
S. F. 6	Shotover	69,000
T. R. 6	Crediton	7,175
T. R. 84	Ossa	960
S. F. 185	Danbulla .. .. .	..

CLASS III.—VALUATION AND ORGANISATION OF STATE FORESTS.

	Parish.	Area in acres.
S. F. 531	Maleny	910
S. F. 728	Maleny	1,107
S. F. 738	Maleny	3,520
S. F. 108	Bribie	11,000
S. F. 442	Bribie	655
S. F. 160	Bribie	330
S. F. 291	Bribie	880
S. F. 313	Durundur	1,790
S. F. 173	Durundur	2,700
T. R. 534	Durundur	2,830
S. F. 370 (part)	Durundur	16,420
S. F. 60	Wararba	1,370
S. F. 257 (compartments)	Emu Creek and Cooyar	8,979
T. R. 220 (compartments)	Kilkivan	1,890
S. F. 283 (Southern section)	Colinton	10,910
S. F. 299	Avoca, Coolabunia	8,698
S. F. 151, 438, and 395	Neumgna, Tureen, and Haly	20,346
S. F. 287 (compartments)	Woowoonga	2,500
S. F. 135	Brooloo, Cambroon	15,642
T. R. 194 (compartments)	Barron	800
S. F. 310 (compartments)	Gadgarra	1,139

BRISBANE DISTRICT.

The first half of the year saw the completion of all forest reservations along the North Coast Line. Modified Class III. surveys were carried out of the following reserves:—

- R. 531, 728, and 738, parish of Maleny.
- R. 108, 442, 160, and 291, parish of Bribie.
- R. 313, Durundur.

Class II. surveys were completed on R. 351, Maroochy, vacant Crown land, Maleny, R. 540, Maleny, also R. 311 and R. 341, Durundur, making a total of 9,492 acres of Class III. and 4,256 acres of Class II. Reserves 728 and 736, Maleny, together with vacant Crown land in same parish, were very rough and broken, consequently were difficult to work, but the balance of country dealt with was comparatively easy.

Naturally a large amount of time was spent shifting camp to small isolated areas and this, combined with extremely wet weather, did not facilitate survey operations.

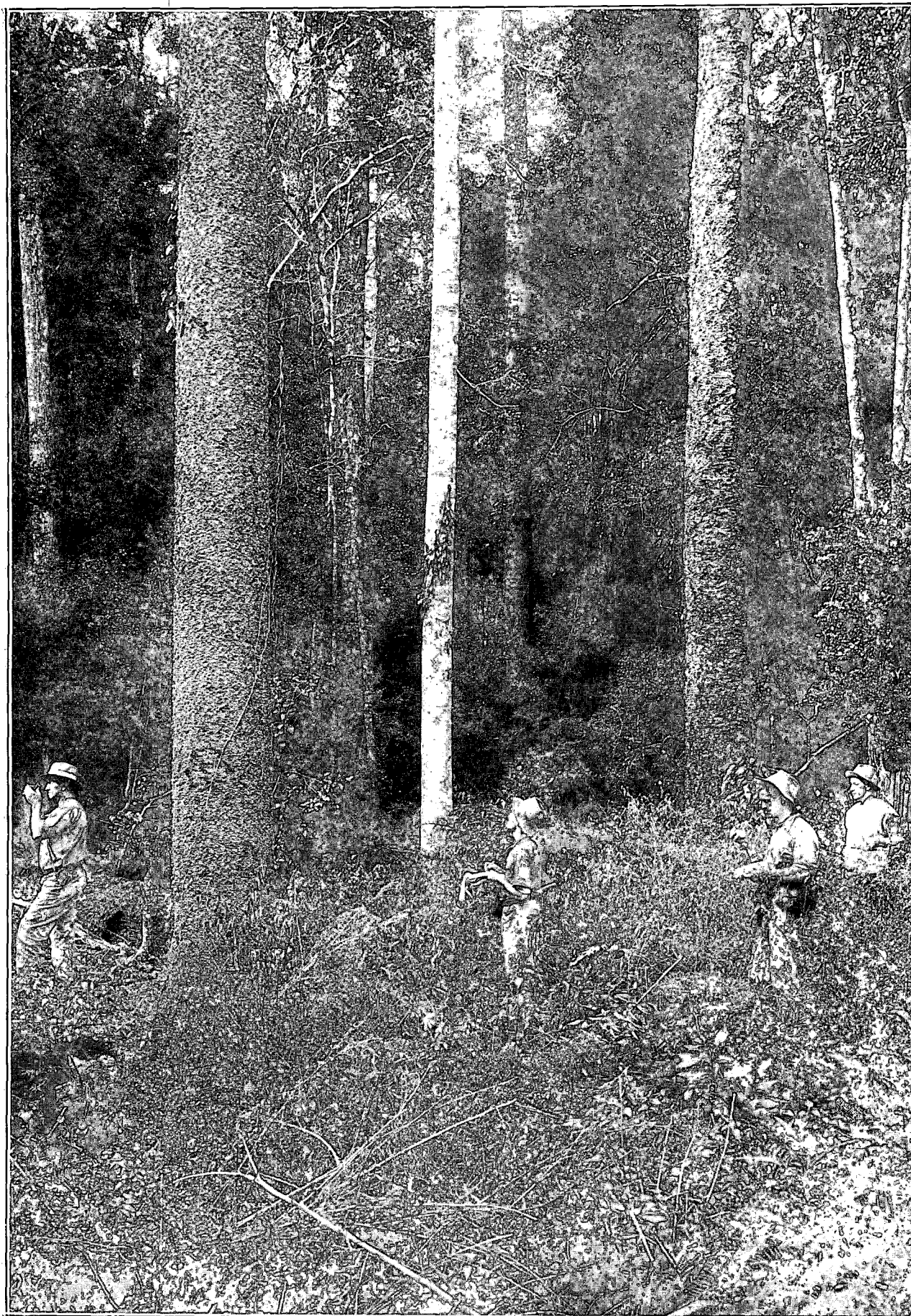
In the middle of May camp was shifted to Woodford and concentrated on areas to the north and on the headwaters of the Stanley River. By the end of report period the following reserves were completed:—S. F. 173, T. R. 534, and part of S. F. 370, Durundur, also S. F. 60, Wararba—modified Class III. survey—in addition to which, 28 compartments were laid out and marked on R. 370, Durundur. Area treated by survey approximated 12,016 acres.

Details of mileage are as follows:—

	Miles.	Chains.
Theodolite and chain	3	32
Compass and chain	22	47
Compass and step	1	75
Strip survey	170	57
Elevations (Abney)	104	22

BENARKIN DISTRICT.

By the end of February, compartment survey on R. 257, Emu Creek and Cooyar, was finalised, and camp was moved to the southern section of S. F. 283, Colinton, where



Forest Valuation Surveying on Bunya Mountain State Forest.

operations were continued until end of September. This party, consisting of a forest foreman and two workmen, was engaged running logging area boundaries, and the mileage accounted for is as follows:—

	Miles.	Chains.
Theodolite and chain	19	0
Compass and chain	14	68
Strip survey	16	58
Exploratory investigation	8	0

Class III. work was completed on State Forest Reserve 299, Avoca and Coolabunia, by the end of July, and the camp was then transferred to the Bunya Mountains. During the camp's stay at Avoca a four days' visit was paid by the Assistant Government Botanist, and much valuable botanical knowledge was gained by Forest Service Officers during his stay.

On the 5th of August a Class III. survey was entered upon of S. F. 151 and 395, Neumgna, Tureen, and Haly, where work is still proceeding at end of report period.

Mileage is as follows:—

	Miles.	Chains.
Theodolite and chain	11	5½
Compass and chain	84	57
Strip survey	116	40
Elevations (Abney)	47	16

Inspections totalling 356 miles were made during the year, 202 being devoted to Bunya Mountains, and balance to R. 299, Avoca.

A total of four weeks two and a-half days was lost owing to wet weather.

GYMPIE DISTRICT.

Class III. survey was continued on R. 135, Brooloo and Cambroon, and a total of 15,642 acres completed at the end of December.

Appended is a list detailing logging areas:—

	Acres.
Western Creek Logging Area	1,320
Breakneck Logging Area	2,060
Araucaria Logging Area	2,220
Derrier Logging Area	4,092
East Derrier Logging Area	2,126
West Derrier Logging Area	1,381
Little Derrier Logging Area	2,443
Total	15,642

Details of mileage run is given hereunder:—

	Miles.	Chains.
Theodolite and chain	3	01-86
Compass and chain	76	40-41
Strip survey	95	67-60
Elevations	16	55-54
Exploratory investigation	65	0

Considerable difficulty has been experienced during the year on account of working in extremely rough, jungly, and timber-worked country.

An area of 1,890 acres was divided into compartments, being part of T.R. 220, Kilkivan, the work being carried out by a foreman assisted by a workman.

MARYBOROUGH DISTRICT.

On State Forest 287, parish of Woowoonga (known as Biggenden Forest), an area of approximately 2,500 acres was divided into 100-acre compartments by a Forest Foreman and workman. Work was commenced in the middle of August and completed by the end of November. This area is a compact block which embraces the Forest Station and Nursery.

ROCKHAMPTON DISTRICT.

In the middle of January a camp was despatched to the Blackdown Tableland, situated outside Duaringa, where extensive stands of hardwood were reported to be located.

The State Forests and Timber Reservations dealt with by Class II. survey included S. F. R. 5, Mimosa, S. F. 6, Shotover, also Class I. of T. R. 10, 54, and 32, Columba and Wafer.

The distance from rail, combined with excessively rough country and difficulty of access, made survey conditions extremely trying and hampered fast working.

However, operations were completed by the middle of August, and camp was then disbanded.

Mileage is as follows:—

	Miles.	Chains.
Theodolite and chain	8	20
Compass and chain	39	69
Compass and step	10	10
Strip survey	82	18
Exploratory investigation	977	0

MACKAY DISTRICT.

Class I. survey operations were continued and finalised on T. R. 394, Lacy, about the middle of April.

From the 14th until the 30th April an inspection of 12,000 acres of Crown lands in the parish of Neotsfield was completed.

From the end of April to the 28th July no survey work was carried out, the camp staff being engaged on projects at Eungella in the interim.

Toward the end of July a Class II. survey was commenced on T. R. 6, Crediton, and terminated on 27th September. October saw an inspection of 60,000 acres of Crown lands in the parishes of Nebo, Pigsaw, and Mt. Britton, and the balance of the report period was utilised for the survey of T. R. 84, parish of Ossa.

The country operated upon has, for the most part, been rough and broken, forest country predominating, though very dense tangled jungle was met with on Reserve 394, Lacy, and 84, Ossa.

A normal season prevailed during 1924, the rainfall at the Eungella Forest Station being 79 inches, which amount is also probably correct for localities in which the Survey Camp operated.

Towards the end of February, resultant upon heavy downpours, floods occurred and two camp horses were drowned. Field work also was frequently held up on account of wet weather.

Increment plots on R. 6, Eungella, were remeasured, cost of same being debited against Survey Camp.

Details of mileage is as follows:—

	Miles.	Chains.
Theodolite and chain	2	0
Compass and chain	30	50
Compass and step	4	0
Strip survey	49	40
Exploratory investigation	665	0

ATHERTON DISTRICT.

Survey work was resumed in March, when feature work was commenced on R. 194, Barron. A camp was then started on S. F. 310, Gadgarra, under the charge of a Forest Foreman, and eleven compartments and some brushed areas were run and marked. On completion of the subdivision of the compartments the camp took up the work started by the Deputy Forester on Reserve 194, and completed eight compartments and a road survey. Scrubby Creek was traversed and some road exploratory work done in view of further extensions. All this work has been seriously hampered by the continuous rains and mists in the scrubs.

The Kirrama Camp of two men completed scrub edge traverse and joined up with the work of Staff Surveyor Campbell. Strips were then run and estimates taken which completed the work required for the present on the western side of the coastal range. Possible road routes were investigated on the coastal side of Meunga and Kennedy Creeks, also the Murray River.

Reputed stands of Hoop Pine behind Cardwell up Stoney Creek were also inspected, but were found to consist of scattered patches along the creek banks.

Mileage for period includes:—

	Miles.	Chains.
S. F. 310, Gadgarra	26	12
S. F. 194, Barron	19	13
Kirrama (vacant Crown land)	20	68
S. F. 185, Danbulla	3	0
Dirran	8	37
Lakes Reserve	4	26

COST OF SURVEY CAMPS, 1924.

	£	s.	d.
Survey Camp (Curry)	1,226	1	9
Survey, R. 283, Colinton .. .	112	15	5
Survey, R. 257, Cooyar .. .	199	14	8
Survey Camp (Twine) .. .	1,098	3	11
Survey Camp (Allom) .. .	1,394	17	9
Survey Camp (Markwell) .. .	803	13	6
Compartment surveys (Woowoonga) .. .	68	12	9
Compartment surveys (Kilkivan) .. .	110	18	8
Survey Camp (Cole) .. .	693	0	7
Survey Camp (Saunders) .. .	1,179	7	0
	<u>£6,887</u>	<u>6</u>	<u>0</u>

FOREST RESERVATIONS.

The area reserved under control of the Forest Service was enlarged during the year from 4,763,567 acres (1.11 per cent. of the State area) to 4,876,324 acres (1.14 per cent.). The acreage increase was 112,757 acres.

PERMANENT RESERVATIONS.

State Forests.—Fourteen areas aggregating 29,776 acres were proclaimed as State Forests during the year.

Of these the reserves most worthy of note are R. 117, Bathampton, &c., in the Clermont district, with an area of 14,500 acres, R. 198, Tottenham, in the Bundaberg district, area 1,064 acres, and R. 783, Maleny, in the Brisbane district, area 1,900 acres, which are new State Forests; R. 400 Emu Vale, area 1,220 acres, and R. 405, Gilbert, area 6,300 acres, both in the Warwick district, were previously timber reserves, but after being assessed by a Forest Survey Camp were proclaimed State Forests.

The Hobart Forestry Conference quota of 6,000,000 acres of permanent reservations for Queensland is still unattained, but the work of classifying the provisional reservations is proceeding steadily.

The need of an adequate area of permanent forest reservations for the supply of Queensland's future timber needs cannot be too strongly stressed.

National Parks.—There was no addition to the area of National Parks during 1924. These reservations, whilst under the control of the Forest Authority, do not really represent forest resources, inasmuch as these parks are reserved primarily for their natural beauty, and to provide resorts for the public.

Provisional Reservations.—At the end of 1924 the number of timber reserves was 331, as against 325 on 31st December, 1923, and the area 3,173,058 acres, as against 3,090,077 acres.

Notes on Timber Reserves.—A number of Timber Reserves were proclaimed during the year, some of these being as follows:—To R. 48, Thalbourg and Winterbourne, was attached an additional area of 11,160 acres of Crown land, making the present area 77,160 acres.

R. 19, 90, and 315, Mowbray, &c., in the Cairns and Port Douglas districts, was enlarged to 118,200 acres, 110,250 acres of Crown land having been added. The area of R. 194, 41, and 99, Barron, East Barron, &c., was also similarly increased by the addition of 3,720 acres, making the gazetted area now 24,920 acres.

R. 2, Attica, 19,797 acres, R. 214, Calliope, 4,100 acres, R. 554, Monsildale, 3,570 acres, and R. 47, Cadarga, 2,587 acres, are among the other large areas set aside as Timber Reserves.

The following schedule is illustrative of the changes in forest reservations during the year:—

STATE FORESTS.		No.	Area in acres.
At 31st December, 1923		131	1,503,951
Proclaimed 1st January to 31st December, 1924		14	29,767
		<u>145</u>	<u>1,533,727</u>

TIMBER RESERVES.

	Acres.	Area in Acres.
At 31st December, 1923 (by recomputation)		3,090,077
Cancelled (2) and revoked	9,120	..
Converted into State Forests	9,885	..
		19,005
Balance		3,071,072
Additions to Reserves	51,550	..
New reserves	50,435	..
Total additions		101,986
Total forest reservations at 31st December, 1923		3,173,058

NATIONAL PARKS, 31ST DECEMBER, 1924.

	No.	
National Parks at 31st December, 1923	22	169,539
Proclaimed 1st January to 31st December, 1924	Nil	..
Grand Total Reservations at 31st December, 1924		4,876,324

RESUMPTIONS OF TIMBER LANDS.

During the year, the sum of £40 5s. was paid for improvements on portion 61, Taromeo (formerly held as Special Lease), which was reserved for timber at the end of 1922.

The sum of £50 7s. was also paid in respect of improvements on portions 2v and 7v, Yabba, which were required in connection with timber removals.

Portion 366, Dirran, was purchased from the Agricultural Bank for the sum of £83 8s. 11d. This area will not be held permanently, but was purchased on account of the stand of Maple thereon.

STATE FORESTS, TIMBER RESERVES, AND NATIONAL PARKS, 31ST DECEMBER, 1924.

Land Agent's District.	STATE FORESTS.			TIMBER RESERVES.			NATIONAL PARKS.		
	No.	Arca.		No.	Area.		No.	Area.	
		A.	R. P.		A.	R. P.		A.	R. P.
Atherton	7	22,978	1 9	4	32,530	0 0	..	..	..
Bowen .. .. .	..	..	..	13	144,738	2 20	..	..	..
Brisbane	29	81,297	0 10	46	214,567	0 25	9	48,627	1 31
Bundaberg	10	57,821	2 10	25	101,099	3 25	..	..	..
Cairns	3	107,194	0 0	3	99,700	0 0	1	79,000	0 0
Charleville .. .. .	..	..	..	2	19,797	0 37	..	..	..
Charters Towers .. .. .	..	..	..	1	125,000	0 0	..	..	..
Clermont	1	14,500	0 0	4	136,800	0 0	..	..	..
Cooktown .. .. .	..	..	..	7	424,050	0 0	..	..	..
Dalby	5	338,000	0 0	19	248,414	3 3	1	13,540	0 0
Gayndah	2	10,087	1 20	18	58,598	2 12	..	..	..
Gladstone	5	38,007	0 0	17	108,307	2 16	..	..	..
Gympie	16	102,095	3 17	35	345,459	0 7	1	106	2 7
Herberton	3	21,631	3 8	3	8,086	0 30	3	1,040	0 0
Ingham .. .. .	..	..	..	6	173,470	0 0	..	..	..
Inglewood	5	80,540	0 0	6	17,990	0 0	..	..	..
Innisfail .. .. .	..	..	..	1	2,966	0 38	..	..	..
Ipswich	13	98,920	1 30	31	69,432	1 25	1	224	0 0
Isisford .. .. .	..	..	..	1	25,600	0 0	..	..	..
Mackay .. .. .	..	..	..	11	236,891	3 23	..	..	..
Maryborough	7	257,840	0 0	24	92,755	3 24	2	1,050	0 0
Nanango	27	116,828	1 13	19	58,074	3 1	1	22,500	0 0
Port Douglas .. .. .	..	..	..	5	24,024	0 0	..	..	..
Rockhampton	3	117,640	0 0	10	284,718	0 0	1	216	2 0
Roma	1	8,695	3 0	5	33,572	0 0	..	..	..
Springsure .. .. .	..	..	..	1	17,200	0 0	..	..	..
St. George .. .. .	..	..	..	1	3,072	0 0	..	..	..
Taroom .. .. .	..	..	..	1	2,240	0 0	..	..	..
Toowoomba	3	17,810	0 0	4	35,450	2 15	..	..	..
Townsville .. .. .	..	..	..	..	..	..	..	..	..
Warwick	5	41,840	0 0	5	19,100	0 0	2	3,235	0 0
Windorah .. .. .	..	..	..	1	240	0 0	..	..	..
Winton .. .. .	..	..	..	1	9,111	0 0	..	..	..
Totals	145	1,533,727	1 37	331	3,173,057	3 21	22	169,539	1 38

THE FOREST AREA, 1900-1924.

The fluctuations in the total reserved forest area for the State during the period 1900-1924 are shown in the Schedule following:—

Date.	No.	State Forests.	No.	National Parks.	Timber Reserves	Total.
		Acres.		Acres.	Acres.	Acres.
31st December, 1900 ..	..	..	..	..	1,622,855	1,622,855
31st December, 1901 ..	..	..	..	..	2,219,177	2,219,177
31st December, 1902 ..	..	..	..	..	3,124,160	3,124,160
31st December, 1903 ..	..	..	..	..	3,518,520	3,518,520
31st December, 1904 ..	..	..	..	..	3,673,331	3,673,331
31st December, 1905 ..	..	..	..	..	3,606,709	3,606,709
31st December, 1906 ..	..	..	..	..	3,460,826	3,460,826
31st December, 1907 ..	..	..	..	..	3,255,706	3,672,578
31st December, 1908 ..	15	793,097	5	23,175	3,019,919	3,836,191
31st December, 1909 ..	18	809,697	7	26,645	2,981,111	3,817,353
31st December, 1911 ..	24	819,937	7	26,645	2,868,337	3,714,919
31st December, 1912 ..	25	855,037	7	26,645	3,211,855	4,093,537
31st December, 1913 ..	25	886,137	7	26,645	3,195,688	4,108,470
31st December, 1914 ..	37	962,557	8	26,751	3,076,159	4,065,467
31st December, 1915 ..	52	1,003,733	9	73,751	2,998,851	4,076,335
31st December, 1916 ..	54	1,006,829	9	73,751	2,887,646	3,968,226
31st December, 1917 ..	64	1,069,134	9	73,751	2,804,967	3,947,852
31st December, 1918 ..	69	1,121,900	14	73,980	2,671,139	3,867,019
30th June, 1919 ..	71	1,151,500	14	73,980	2,559,717	3,785,197
30th June, 1920 ..	84	1,260,832	14	73,980	2,583,450	3,918,262
30th June, 1921 ..	100	1,273,830	15	74,316	2,679,091	4,027,237
31st December, 1921 ..	103	1,320,647	16	153,316	2,722,835	4,196,798
31st December, 1922 ..	117	1,410,364	21	168,809	3,123,072	4,702,245
31st December, 1923 ..	131	1,503,951	22	169,539	3,090,077	4,763,567
31st December, 1924 ..	145	1,533,727	22	169,539	3,173,058	4,876,324

FOREST ORGANISATION (INCLUDING ENGINEERING).

The work of forest organisation covers all expenditure necessary in connection with the establishment and maintenance of forest station buildings, paddocks, water supplies, nursery construction, logging roads, the improvement of grazing areas, and other related works necessary for carrying out forestry and timber-getting operations.

Schedules are appended showing the expenditures under various projects undertaken by the Forest Service during the report period.

The chief work of road construction undertaken during the year was that from Yednia up the range towards Foxlowe. This is a timber road, the construction of which will result in increasing the value of not less than 20,000,000 super. ft. of timber served by it by 1s. per 100 super ft. Work was commenced on 23rd March, 1924, and at the end of the year an expenditure of £3,023 17s. 10d. had been made. This expenditure includes all tools, tents, and material purchased for the job, and a considerable quantity of this will be credited to the work on completion.

The work done during the report period was:—

Section No. 1.—

Sixty chains clearing and grubbing.
Making ten creek crossings.
Fourteen chains formation..

Section No. 2.—

Clearing and grubbing, 86 chains.
Catchment drains, 101 chains.
Timber drains under banks—184 lin. 30 x 12; 54 lin. 24 x 43.
Concrete piping, 24 in—88 lin. ft.
Excavations, 83 chains, about 9,000 cub. yds.

Section No. 3.—

Clearing and grubbing, 26 chains.
Excavations, 150 cub. yds.

Section No. 4.—

Clearing scrub, 10 chains.
Excavations, 500 cub. yds.

Section No. 5.—

Clearing scrub, 18 chains.
Excavations, 300 cub. yds.

ROADS.

Particulars.	Cost.
Brisbane District—	
Construction, Foxlowe road	£ 3,023 17 10
Construction, logging road, R. 318, Maroochy	3 14 2
Repairs to road, R. 318, Maroochy	5 7 2
Maintenance, log road, R. 595, Kedron	10 0 0
Warwick District—	
Subsidiary road, Banshee Logging Area, R. 405	62 18 6
Benarkin District—	
Repairs, Road B., R. 257, Emu Creek	94 10 1
Clearing roads, R. 257, Emu Creek	1 9 6
Construction, K 9 road, R. 289, Cooyar, and 120, Neumgna	48 16 4
Construction, Middle Creek road extension, R. 151, Neumgna	37 11 1
Maintenance, roads, Bunya-Nanango Working Plan Area	22 6 8
Maintenance, roads, Brisbane Valley Working Plan Area	242 18 5
Repairs, road, G.H., R. 283, Colinton, &c.	11 19 8
Repairs, Opossum Creek road, R. 283, Colinton, &c.	56 5 8
Clearing, Goods shed road, R. 283, Colinton, &c.	21 2 4
Atherton District—	
Construction, road, R. 310, Gadgarra	246 15 8
Repairs, road, R. 194, Barron	10 14 7
Subsidy, Tinaroo Shire, Sherwoods Bridge	50 0 0
Maryborough District—	
Repairs and maintenance, road, R. 287, Woowoonga	10 4 2
Mackay District—	
Repairs, culvert, Eungella road, R. 6	38 8 2
Construction, Eungella road, R. 6	213 3 9
Construction, road, Bee Creek, R. 6	59 0 0
Construction, roads, R. 6 (felling scrub)	92 13 0
Road maintenance, Mackay district	21 18 10
Gympie District—	
Road improvements, R. 124, Glastonbury	256 13 2
Road improvements, R. 700, Corella	33 11 0
Road improvements, R. 393, Woondum	31 10 5
Fraser Island—Road maintenance	5 0 3
Kilkivan District—	
Maintenance, road, R. 355, Kilkivan	0 11 5
Maintenance, road, R. 220, Kilkivan	35 6 2
Maintenance, road, R. 221, Kilkivan	37 19 10
Mary Valley District—	
Maintenance of roads, Brooloo State Forest	142 11 2
Maintenance of roads, R. 256, Imbil	1 11 11
Maintenance of Yabba Creek road	111 11 9
Road 14, Ryan's Creek, R. 256, Imbil	12 12 8
Maintenance of road, R. 3, Imbil	68 6 5
Maintenance of road, 2, Imbil	14 3 5
Maintenance of road, 6, Imbil	1 3 3
Maintenance of road, 11, Imbil	13 6 0
Maintenance of road, 12, Imbil	18 10 10
Maintenance of Branch Gully road	22 10 7
Maintenance of Yabba Creek	70 9 6
Construction, Yabba Creek subsidiary road	126 10 10
Improvement, Yabba Creek road, Imbil	3 1 0
Subsidiary road, Branch Gully road, R. 256	18 18 6
Subsidiary road, Yabba Grazing Farms	30 14 9
Subsidiary road, Yabba Creek road	62 17 5
Maintenance of road, R. 435, Amamoor	74 12 9
Maintenance of road, Harry's Creek road	49 12 9
Maintenance of road, Main road, Amamoor	102 11 3
Maintenance of road, 300 Gully road, Kandanga	4 9 0
Maintenance of road, Zachariah Creek road	8 8 1
Total	£5,744 8 3

ACCOMMODATION.

Particulars.	Cost.
Maryborough District—	
Maintenance, bunk hut, R. 287, Woowoonga	£ 3 14 3
Benarkin District—	
Improvements to workshop, R. 283, Colinton, &c.	11 11 10
Maintenance, residence and bunk huts, R. 283	2 10 3
Nursery construction, R. 283	159 13 3
Construction, barracks, R. 151, Neumgna	52 8 6
Construction, office and storeroom, R. 151, Neumgna	103 11 8
Nursery construction, R. 151, Neumgna	102 10 2
Nursery construction, R. 299, Avoca	87 7 11
Water supply, R. 299, Avoca	7 11 10

ACCOMMODATION—continued.

Particulars.		Cost.
Gympie District—		
Repairs and maintenance, bunk hut, R. 355, Kilkivan	.. .. .	£ s. d. 1 17 11
Repairs and maintenance, bunk hut, No. 1, R. 700, Curra	.. .. .	18 2 9
Repairs and maintenance, bunk hut, No. 2, R. 700, Curra	.. .. .	0 10 8
Repairs and maintenance, bunk hut, R. 220, Kilkivan	.. .. .	0 16 1
Tool room and quarters, R. 355, Kilkivan	.. .. .	6 16 6
Preparation, Forest Station site, R. 393, Woonidum	.. .. .	6 12 6
Construction, engine shed, R. 220, Kilkivan	.. .. .	9 19 4
Rockhampton District—Maintenance, bunk hut, R. 20	.. .. .	0 9 10
Mackay District—		
Improvements, bunk hut, Eungella	.. .. .	64 0 10
Nursery construction, Eungella	.. .. .	83 3 8
Atherton District—		
Construction, hut, R. 185, Danbulla (unfinished)	.. .. .	17 9 5
Alterations, house, R. 310, Gadgarra	.. .. .	14 3 7
Alterations, house, R. 191, Barron	.. .. .	45 3 3
Water supply (estab.), R. 191, Barron (unfinished)	.. .. .	27 13 1
Water supply (estab.), R. 194, Barron	.. .. .	78 6 11
Water supply (estab.), R. 310, Gadgarra	.. .. .	36 7 7
Construction, workshop and toolroom, R. 194, Barron	.. .. .	78 16 9
Establishment, nursery, R. 310, Gadgarra	.. .. .	71 9 7
Establishment, nursery, R. 191, Barron	.. .. .	110 4 3
Establishment, nursery, R. 194, Barron	.. .. .	101 4 4
Fraser Island—		
Repairs and maintenance, residence and bunk huts	.. .. .	104 2 5
Improvements, office	.. .. .	20 12 7
Improvements, bunk huts	.. .. .	14 9 3
Bunk hut, Bogimbah, purchase	.. .. .	3 0 0
Imbil District—		
Improvements, Forest station, R. 256, Imbil	.. .. .	3 5 8
Maintenance, buildings, R. 256, Imbil	.. .. .	15 17 2
Bunk hut, 300 Creek, R. 435, Amamoor	.. .. .	8 16 10
Water supply, R. 435, Amamoor	.. .. .	162 8 8
Construction, residence, R. 435, Amamoor (part)	.. .. .	12 2 6
Maintenance, cottage, R. 435, Amamoor	.. .. .	108 15 3
Maintenance, residence, R. 435, Amamoor	.. .. .	25 12 2
Maintenance, bunk hut	.. .. .	22 18 2
Roofing, timber shed, R. 135, Brooloo	.. .. .	18 7 4
Maintenance, residences and bunk huts, R. 135, Brooloo	.. .. .	14 11 3
Maintenance, bunk huts, Derrier, R. 135, Brooloo	.. .. .	1 19 6
Maintenance, residence and bunk huts, Western Creek, R. 135, Brooloo	.. .. .	0 7 6
Maintenance, tool shed, R. 135, Brooloo	.. .. .	0 4 2
Maintenance, forest station, Imbil	.. .. .	9 17 5
Maintenance, forest station, R. 435, Amamoor	.. .. .	8 9 6
Brisbane District—		
Improvements, residence, R. 69, Bunya	.. .. .	3 13 10
Maintenance, residence, R. 69, Bunya	.. .. .	3 5 8
Total	.. .. .	£1,861 5 4

FOREST PADDOCKS.

Particulars.		Cost.
Benarkin District—		
R. 283, improvements, forest paddock, Opossum Creek	.. .. .	£ s. d. 6 6 7
R. 283, maintenance, forest paddock, Wallaby Creek	.. .. .	62 18 10
R. 283, maintenance, forest paddock, Back Gully	.. .. .	14 1 10
R. 283, maintenance, forest paddock, Taromeo Creek	.. .. .	23 0 0
R. 283, improvements, Benarkin horse paddock	.. .. .	44 2 6
R. 257, establishment, forest paddock No. 3	.. .. .	209 3 9
R. 257, forest paddock No. 1, improvement	.. .. .	39 8 8
R. 257, forest paddock No. 1, maintenance	.. .. .	28 16 0
R. 289, horse paddock, establishment	.. .. .	25 1 4
R. 316, forest paddock No. 1, improvement	.. .. .	11 15 3
R. 316, forest paddock No. 2, improvement	.. .. .	14 16 8
R. 299, forest station paddock, establishment	.. .. .	35 8 11
R. 299, forest paddock, Greenwood Creek, improvement	.. .. .	16 19 2
R. 299, forest paddock, Marble Top, improvement	.. .. .	119 8 6
Warwick District—		
R. 405, Gladfield, establishment, grass paddock, Banshee Logging Area	.. .. .	26 11 0
Dalby District—		
R. 4, Braemar, repairing fences	.. .. .	9 0 1
R. 93, Nudley, repairing fences	.. .. .	1 11 8
R. 337, Yeulba, repairing fences	.. .. .	2 9 6

FOREST PADDOCKS—continued.

Particulars.	Cost.
Mackay District—	
R. 6, Eungella, extension, forest paddock No. 1	£ 187 14 9
R. 6, Eungella, establishment, forest paddock No. 2	246 13 11
Atherton District—	
Forest paddock, R. 185, Danbulla (unfinished)	10 0 6
Forest paddock, R. 418, Danbulla (part)	27 7 0
Gympie District—	
Establishment, forest paddock, R. 50, Glenbar	61 9 5
Establishment, forest paddock, R. 393, Woondum	7 5 1
Maintenance, forest paddock, R. 700, Gympie	6 13 10
Maintenance, forest paddock, R. 355, Kilkivan	6 16 6
Maintenance, horse paddock, R. 355, Kilkivan	1 10 0
Maintenance, forest paddock, R. 220, Kilkivan	5 7 2
Maintenance, forest paddock, R. 124, Glastonbury	61 5 1
Establishment, forest paddock No. 5, R. 124, Glastonbury	93 19 4
Fraser Island—	
Forest paddocks, maintenance	87 1 0
Forest paddocks, establishment	1 5 6
Brisbane District—	
Forest paddock No. 1, R. 69, Bunya, establishment	21 8 2
Forest paddock No. 3, R. 69, Bunya, establishment	117 11 1
Forest paddocks, R. 69, Bunya, maintenance	20 11 1
Forest paddocks, R. 318, Maroochy, maintenance	34 1 9
Imbil District—	
Farm, Butler's Corner, R. 256, Imbil, working expenses	152 9 10
Maintenance, forest paddocks, R. 435, Amamoor	31 3 7
Establishment, horse paddock, R. 435, Amamoor (part)	9 15 11
Maintenance, horse paddock, R. 435, Amamoor	16 3 9
Maintenance, forest paddocks, R. 135, Brooloo	158 19 10
Establishment, forest paddock No. 10, R. 135, Brooloo	9 19 41
Establishment, forest paddock No. 13, R. 135, Brooloo	16 2 8
Establishment, forest paddock No. 8, R. 135, Brooloo	4 5 3
Total	£2,088 2 2

FARM, BUTLER'S CORNER, RESERVE 256.

From farming operations on the above area, a crop of 723 bushels of corn, being over 60 bushels to the acre, was harvested. The farm was planted again with corn.

FOREST PROTECTION.

FIRE FIGHTING AND PREVENTION.

From the standpoint of fire protection the year was a most fortunate one, and little or no damage to the forests from this cause was reported. The rains, spread as they were throughout the year, kept the forest floor in a non-inflammable condition, and fires did not constitute a menace.

In the Dalby district, which on account of its drier climate is most subject to serious forest fires, a new device for use in construction of fire lines was tried out successfully.

A wooden triangle with steel cutters attached, and drawn by two horses, is used to cut two tracks, 4 to 5 feet in width, and a chain apart. In this way a considerable length of fire line can be run in this country at very cheap cost. A trial of the efficacy of one line, constructed with the aid of the delver round a circle of two acres in area, resulted satisfactorily. No outbreaks of fire were reported from Dalby district during the year.

The delver was also used at Fraser Island and about 30 miles of double line cost only £11 to construct. Here also the measures were only precautionary, and no damage resulted from fire during the period.

Patrol of the forests in the Benarkin district was necessary for only a week at the end of a hot spell in November; no serious fires occurred.

In the Atherton district, the favourable season obviated the necessity for any expenditures in fire fighting, as was also the case in the Bundaberg and Mackay districts.

Gympie district shared the general immunity from serious fire outbreaks, but in this district fire lines were given some attention in case of future need. A few minor fires occurred on R. 124, Glastonbury.

	Description of Work.	Cost.
Benarkin District—		
	Fire patrol, R. 283, Taromeo and Colinton	£ s. d. 9 8 9
	Chipping fire line, R. 151, Neumgna and Tureen	27 18 8
	Chipping fire break No. 1, R. 299, Avoca	38 9 6
	Chipping fire break No. 2, R. 299, Avoca	6 6 1
	Fire protection, R. 289	12 2 0
Maryborough District—		
	Burning and brushing fire lines, R. 287, Woowoonga	12 5 4
	Fire patrol, R. 287, Woowoonga	1 12 8
Gympie District—		
	Fire protection and fire fighting, R. 124, Glastonbury	15 13 5
	Fire lines, &c., R. 393, Woondum	6 2 6
	Fire protection, R. 36, Kilkivan	47 5 11
	Fire protection, R. 355, Kilkivan	26 2 1
	Fire protection, R. 74, Nangur	0 14 0
	Fire protection, R. 220, Kilkivan	14 17 9
Fraser Island—Ploughing and burning fire lines		
		15 9 7
Brisbane District—		
	Fire protection, R. 318, Maroochy	43 16 11
	Fire protection and fire lines, R. 69, Bunya	205 6 2
Imbil District—		
	Forest protection, R. 256, Imbil	4 11 2
	Forest protection, R. 135, Brodloo	47 19 4

NOXIOUS PLANTS.

The chief task confronting the Forest Service in dealing with the noxious plants problem is the maintenance in a clean condition of its forests in the pear-infested Western districts.

In this work the advice and assistance of the Prickly-pear Land Commission has been of material benefit.

On R 4, Braemar (Dalby district), 400 acres of scattered infestation were treated by poisoning at a cost of £9 13s. 7d. An area of 177 acres of R. 377, Yeulba, was treated at a cost of £52 13s. 2d. Light infestation on R. 93, Nudley, was dealt with over an area of 2,000 acres at a cost of 1½d per acre.

Cochineal insects, which have been effective in reducing the pear on private areas at Yeulba, have been secured and distributed on Yeulba and Braemar State Forests. These insects were beginning to spread at the close of the year.

In the Benarkin district also the work of destroying noxious plants claimed attention; on Reserve 283, Colinton and Taromeo, a light growth of prickly-pear was eliminated for the small cost of 16s. 8d., due to the efficiency of the pear-fighting appliances supplied by the Prickly-pear Commission.

Sixty acres heavily covered with lantana on Sandy Logging Area, same reserve, received attention at a cost of £55 18s., and small clumps on Wallaby Creek cost £1 2s. 3d. to destroy, whilst material used for the work cost £1 12s. The Lantana Fly (*Agromyza*) has been released on the reserve, subject to advice and information having been received from the Government Entomologist.

Fifty acres of lantana on Reserve 257, Cooyar and Emu Creek, were dealt with at a cost of £8 17s. 10d. Prickly-pear growing on Forest Paddocks Nos. 2 and 3, Reserve 379, Cooyar, received attention. An expenditure of £14 17s. was made, and this was sufficient to render these paddocks practically free of the pest. The work will be completed during 1925.

Bathurst and Noogoora burrs growing in scattered patches on R. 299, Avoca, involved an expenditure of £3 16s. 6d. to clear.

On R. 287, Woowoonga (Maryborough district), 120 acres were cleared of lantana at a cost of £64 3s. 3d.

In the Atherton district lantana and other noxious weeds were eradicated from areas on Reserve 418, Dunbulla, the cost of the work being £35 0s. 10d.

On State Forest Reserve 169, St. Agnes (Bundaberg district), efforts were directed towards reducing the pear infestation, and during the year the sum of £230 was spent in this work.

The resident Overseers on Reserves in the Gympie district gave attention to the work of destroying noxious plants on areas under their control. Isolated lantana plants and Bathurst burr growing along the edges of snigging tracks were eradicated on North Dingo Creek Logging Area, Reserve 393, Woondum—about 30 acres in all being treated at a cost of £2 9s.

Lantana patches were cleared from Reserve 700, Gympie, at a cost of £3 14s. 6d.

Forty acres of Reserve 26, Kilkivan, were cleared of lantana at a cost of £37 4s. 9d., and on the same reserve in the vicinity of the nursery, an area infested with Scotch-thistles was cleared up, the cost being £1 7s. 7d. This reserve is now almost free from lantana.

Infestation of lantana on R. 124, Glastonbury, was dealt with over an area of 233 acres at a cost of £120 5s. 3d.

The sum of £6 9s. 5d. was expended in clearing lantana on Reserve 220, Kilkivan, 40 acres of scattered infestation being treated.

BRISBANE DISTRICT.

On Reserve 69, Bunya, 40 acres were cleared of lantana at a cost of £45 13s. 2d.

FRASER ISLAND.

Eradication of lantana cost £12 17s. 8d. on Fraser Island during the year.

IMBIL DISTRICT.

The spread of lantana to clean lands on reserve was checked by clearing operations which cost £5 7s. 6d., whilst the sum of £6 14s. 1d. was expended in similar work on R. 435, Amamoor.

On Brooloo State Forest, lantana and Noogoora and Bathurst burr infestation was dealt with, the cost of operations being £164 7s. 3d.

FUNGUS INFESTATION, R. 151, NEUMGNA, BUNYA MOUNTAINS.

The sum of £7 16s. 4d. was expended in making investigations into the extent and character of the fungus infestation (*Fomes* species) of Hoop Pine stands on the Bunya Mountains State Forest. It was subsequently decided to cut out all diseased trees as speedily as possible. These trees are marked for removal by the Overseer, felled by Forest Service workmen, and sawn by a portable sawmill on the reserve.

III.—TRADING OPERATIONS.

HARVESTING AND MARKETING OPERATIONS.

So far alienated timber lands have furnished the greater part of the annual cut of pine woods necessary to maintain the timber industry of the State. The processes of land-clearing upon these alienated areas have reduced this auxiliary asset considerably, and it is only a matter of a few years before complete exhaustion is reached. The burden of maintenance of sawmill requirements will then fall wholly upon the Crown forest estate, which already is yielding its raw material at a rate which will also complete its exhaustion in from ten to fifteen years' time. The pressure of demand is being felt more and more each year, and from all sides come clamorous requests for an increase of the Crown's output. Within the considered cutting programme of the Department every effort is being made to assuage the needs of the time.

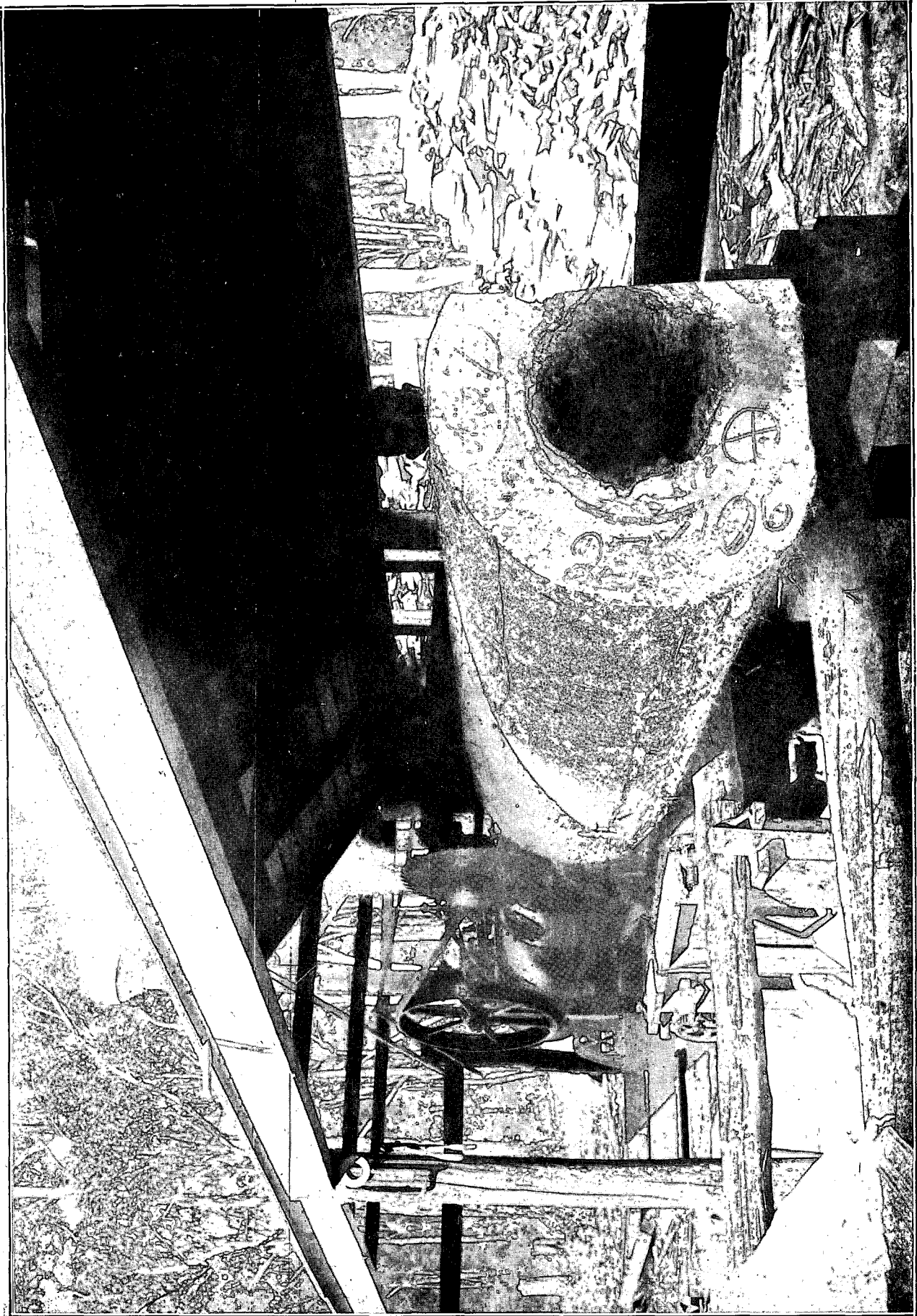
Whereas in 1922 the out-turn of Hoop and Bunya Pine from the State's forest reservations was 41,768,000 super. ft., the Department had increased its cut in 1924 to the figure of 50,376,268 super. ft., and the total saw-log production of all species, including hardwoods and cabinet woods, reached 65,000,000 super. ft., which approaches closely the peak cut of the Crown forest estate, which was achieved in 1914.

Owing to alteration in the period for collection of statistics from the calendar year to the financial year, figures of the total utilisation of milling timber from Crown and private lands are not available, and it is not possible to give the usual comparison of the Forest Service and private land production. This comparison will, however, be made in respect of the financial year period ending 30th June, 1925.

The following table gives details of the saw-log production of Forest Service from July, 1921 to 1924, divided according to the calendar year period:—

FOREST SERVICE TIMBER CUT—MILL LOGS.

	July to December, 1921.	1922.	1923.	1924.
Hoop and Bunya (logs and tops) ..	13,567,263	41,768,829	44,512,655	50,376,268
Kauri	1,553,530	1,927,232	2,615,060	2,001,815
Cypress Pine	1,117,841	2,542,021	2,261,706	1,545,027
Other Softwoods	710,088			
Hardwoods	3,245,462	6,553,831	8,276,444	7,663,807
Other Mill Timbers		2,364,161	3,500,308	3,427,664
Grand Total	20,194,184	55,156,074	61,166,173	65,014,581



Utilisation of Fungus-infested Pine on Bunya Mountain State Forest by Portable Sawmilling.

PRICES OF LOG TIMBER.

The following Schedule illustrates the fluctuation in the market price of logs during the year:—

Species.	Log Class.	Delivery.	Price.
Red Cedar ..	6 ft. to 7 ft. 11 in. ..	F.o.b. Cairns ..	35s. to 37s. 6d.
Maple and Silkwood ..	8 ft. to 9 ft. 11 in. ..	F.o.b. Cairns ..	33s. to 47s.
Kauri Pine ..	6ft. plus ..	F.o.b. Cairns ..	29s. to 32s.
White Beech (Teak) ..	6 ft. plus ..	F.o.r. Brisbane ..	32s. 6d.
Red Cedar ..	6 ft. plus ..	F.o.r. Brisbane ..	42s.
Bolly Wood ..	5 ft. plus ..	F.o.r. Brisbane ..	18s. 6d.
Silver Quandong ..	5 ft. plus ..	F.o.r. Brisbane ..	18s.
Rose Mahogany ..	6 ft. plus ..	F.o.r. Brisbane ..	18s. to 16s. 9d.
Yellowwood Ash ..	6 ft. plus ..	F.o.r. Brisbane ..	19s. to 16s.
Crow's Ash ..	6 ft. plus ..	F.o.r. Brisbane ..	19s.
Silver Ash ..	5 ft. plus ..	F.o.r. Brisbane ..	16s. 6d. to 22s. 6d.
Blush Cudgerie (Pink Poplar)	5 ft. plus ..	F.o.r. Brisbane ..	14s. 6d. to 10s.
Brown Tulip Oak ..	5 ft. plus ..	F.o.r. Brisbane ..	12s. to 10s.
Marara ..	5 ft. plus ..	F.o.r. Brisbane ..	12s.
Brush Box ..	6 ft. plus ..	F.o.r. Brisbane ..	12s. 6d.
Satin Ash (Water Gum)	5 ft. plus ..	F.o.r. Brisbane ..	12s. 6d.
Rose Walnut ..	6 ft. plus ..	F.o.r. Brisbane ..	20s.
Hoop Pine ..	Ply ..	F.o.r. Brisbane ..	26s. to 28s.
Hoop Pine ..	5 ft. plus ..	F.o.r. Brisbane ..	23s. 6d.
Cypress Pine ..	All sizes ..	Central-Western Lines ..	14s. 6d.
Hardwoods ..	All sizes ..	West-S.W. Lines ..	11s.
Hardwoods ..	All sizes ..	Central Line ..	13s.
Silky Oak ..	7 ft. plus ..	F.o.b. Cairns ..	24s.
Brown Tulip Oak ..	6 ft. plus ..	F.o.b. Cairns ..	20s.
Medang (Walnut) ..	8 ft. plus ..	F.o.b. Cairns ..	22s.
Satin Sycamore ..	6 ft. plus ..	F.o.b. Cairns ..	20s.
Silver Silkwood (Putt's Pine)	5 ft. plus ..	F.o.b. Cairns ..	26s. to 22s. 6d.
Satin Ash (Water Gum)	8 ft. plus ..	F.o.b. Cairns ..	22s. to 18s. 9d.
Bolly Wood ..	6 ft. plus ..	F.o.b. Cairns ..	16s. 6d.
White Beech (Teak) ..	..	F.o.b. Cairns ..	26s. to 23s. 9d.
Silver Quandong ..	..	F.o.b. Cairns ..	26s. to 20s. 9d.

MISCELLANEOUS TIMBERS.

The following is a comparative table giving figures relating to the cut of miscellaneous classes of timber from Crown lands during the several report periods since 30th June, 1920:—

	1920-21.	June to Dec., 1921.	1922.	1923.	1924.
Sleepers (pieces) ..	469,379	35,000	188,859	304,071	384,584
Posts, rails, and palings (pieces) ..	90,615	33,562	120,084	232,813	205,487
Piles, girders, corbels, and sills (lin. ft.) ..	95,982	10,868½	116,292	143,520	142,583
Headstocks, transoms, and crossings (sup. ft.) ..	944,814	78,022	198,937	342,741	1,311,478
Telegraph poles and house blocks (lin. ft.) ..	215,864	55,209	191,430	285,221	375,763
Mining and Miscellaneous (lin. ft.) ..	484,242	18,478	56,386	84,345	461,547
Miscellaneous—					
Sup. ft. ..	102,119	2,434	31,719	22,885	152,779
Lin. ft. ..	..	..	35,830	1,473	87,013
Pieces ..	..	..	..	..	20,003
Fuel (tons) ..	64,532	33,790½	80,078	82,589	57,820
Sandalwood (tons) ..	388	247	224	135	291
Mangrove (tons) ..	54	..	48	44	18
Guano (tons) ..	..	..	917	..	148
Foam Bark (cwt.) ..	13	..	..	..	..
Ebonywood (tons) ..	3¼ tons	20 lb.	1.35 ton	..	..
Sand and gravel (loads) ..	37	..	20	..	..
Charcoal (bags) ..	1,222	6,845	1,243	995	109
Lawyer Cane (tons) ..	..	..	5.9	..	..
Sand (c. yds.) ..	..	..	..	..	271

NOTES ON THE TIMBER BUSINESS.

SOUTH QUEENSLAND.

Pine Logs and Tops.—The demand for these was good throughout and all lots offering were accepted. Export sales of these classes were not made during the year.

Scrubwoods and Hardwoods.—Demand shows a slight falling off on that experienced during the previous year. Considerable supplies of these classes remain in private ownership.

At the beginning of the year it was decided, in order to reduce the overhead costs of numerous sales, to offer the half-year's supplies of pine logs for each district at one sale. This was carried into effect in respect of the Mary Valley, Kilkivan, and Tarong districts, and at the sale heavy competition ensued, with the result that upset

prices were greatly exceeded. As a result of representations from the purchasers, it was decided to offer the option of reducing quantities to one-third of the quantities purchased, and to establish a system of quarterly in lieu of half-yearly sales.

The principle of auctioning all lots of timber, in lieu of the tender system previously used in cases of sales of timber on rail, was adopted during the year.

To make timber supplies available to all mills, sales of timber have been made generally on rail, the Forest Service arranging the cutting and hauling, but in cases where a sufficient stand warrants erection of a mill, stump sales are made, the basis of appraisal in this case being such as to place the country mill as nearly as possible on an equal footing with railside mills as far as sawn timber costs are concerned.

The system of recording operations underwent a change, and records and direct control of operations in the districts from Gladstone southwards are now kept at the Head Office. A special checking system has been brought into use and has proved satisfactory.

NORTH QUEENSLAND.

The year saw the policy of selling timber on rail extended practically throughout the Atherton district.

During the previous year the policy was adopted of selling mixed lots of timber instead of allowing the purchase of the prime timbers only. This policy was continued, and the Deputy Forester reports:—

“It met with astonishing success. The prices of the better class timbers were not affected and full market rates were received for secondary woods which otherwise would have been destroyed. Little or no profit is being made on the secondary timbers, but their use will not only stave off the timber famine, but will allow of forests being cut to a face and silvicultural operations simplified.”

The Forest Service was afforded control of the forests in the Tully area, on lands for settlement purposes. Here continuous wet weather severely militated against successful handling of the timber. In some cases selection has been pushed in advance of road construction, and in such instances it is practically certain that timber will have to be destroyed by the selector.

The Deputy Forester draws attention to the out-of-date facilities provided at Cairns for handling sinker logs.

The quantity of milling timber sold by the Forest Service during 1924 in the Northern division of the State, embracing the Herberton, Atherton, Cairns, and Innisfail districts, was as follows:—

	Sup. feet.
Maple	1,050,913
Kauri	2,077,283
Cedar	35,094
Silky Oak	827,568
Other woods	1,385,469
Total	5,377,327

No export sales were effected during the year, but deliveries on sales made previously were continued.

Timber on Crown lands and settlement blocks on the Atherton Tableland is practically cut out, and the Crown reservations will have to be looked to for future supplies.

FOREST SERVICE SAWMILLING OPERATIONS.

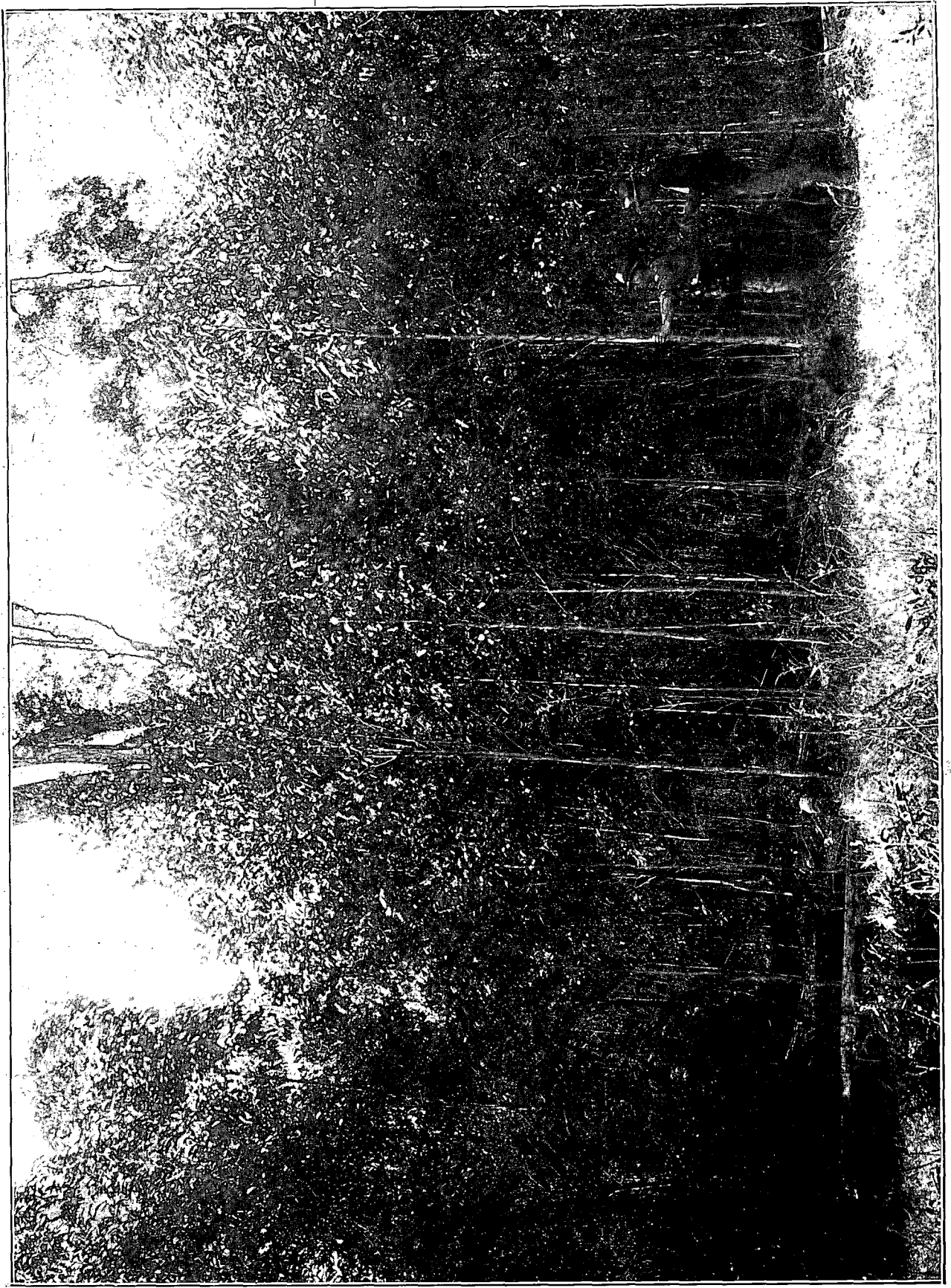
The sales, wages, overhead expenses, and discounts of the sawmilling and timber-yard undertakings of the Forest Service as a whole are shown in tabular form hereunder for each of the financial years 1921-22, 1922-23, and 1923-24:—

	1921-22.	1922-23.	1923-24.
Sales	£88,228	£112,035	£130,201
Wages	5,378	7,000	10,761
Overhead	8,837	8,800	9,468
Discounts	2,237	4,124	6,489
Discount, per cent.	2.5%	3.7%	4.7%

The Forest Service Sawmilling organisation in 1923-24 employed directly 195 men; the total sales amounted to 7,522,700 super. ft., as well as 52,152 sawn sleepers delivered to Railways; the value of timber purchased for resale over and above that sawn by Forest Service country mills was £64,380.

Prices were maintained at 2 per cent. to 2½ per cent. below Price Fixing Commissioner's List, and in the case of Workers' Dwellings, the concessionary discount of 12½ per cent. below fixed prices was continued.

Balance-sheet and Trading and Profit and Loss Accounts for the concern as a whole for the year ended 30th June, 1924, are supplied hereunder for general information.



Assisted Regeneration of Grey Ironbark under 4 years old (*Eucalyptus paniculata*)—Brooloo Forest. Seed Trees in background.

QUEENSLAND FOREST SERVICE SAWMILLS.

BALANCE SHEET, 30TH JUNE, 1924.

LIABILITIES.				ASSETS.							
£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
H.M. Treasury Loan Account—						Land Freehold—					
To Balance, 1st July, 1923 ..	55,513	11	1			Brisbane ..	3,287	10	3		
Less Annual Redemption ..	538	1	5			Taromeo ..	534	1	3		
						Imbil ..	369	18	0		
						Silkwood ..	135	8	9		4,326 8 3
H.M. Treasury Account ..	25,522	16	4			Buildings—					
				80,498	6	0	Brisbane ..	3,714	18	1	
Sundry Creditors ..				11,107	1	10	Less Depreciation ..	222	18	0	3,492 0 1
Reserve Stock Valuation Adjustment ..				3,400	0	0	Taromeo Mill ..	377	4	7	377 4 7
Reserve for Depreciation ..				6,750	0	0	Imbil ..	907	3	1	907 3 1
							Imbil Cottages ..	1,011	17	1	
							Less Depreciation ..	60	14	0	951 3 1
							Silkwood ..	1,149	17	8	
							Less Depreciation ..	69	0	0	1,080 17 8
							Injune ..	971	14	3	
							Less Depreciation ..	763	6	0	208 8 3
							Biringan ..	554	17	3	
							Less Depreciation ..	55	10	0	499 7 3
							Silkwood Quarters ..	105	9	9	
							Less Depreciation ..	6	6	6	99 3 3
										7,615 7 3	
							Plant—				
							Brisbane ..	4,586	14	8	
							Less Depreciation ..	1,685	4	6	2,901 10 2
							Taromeo ..	2,118	4	11	
							Less Depreciation ..	127	1	7	1,991 3 4
							Imbil ..	3,274	18	9	
							Less Depreciation ..	196	10	0	3,078 8 9
							Silkwood ..	2,291	9	7	
							Less Depreciation ..	137	9	2	2,154 0 5
							Biringan ..	1,597	11	1	
							Less Depreciation ..	160	0	0	1,437 11 1
							Injune ..	2,151	17	8	
							Less Depreciation ..	1,210	2	4	941 15 4
										12,504 9 1	
							Railway Siding, Brisbane (less Depreciation, £8 18s.) ..			169 0 6	
							Tramway, Silkwood (less Depreciation, £4 17s. 3d.) ..			76 10 0	
							Reconstruction Sleeper Mill, Biringan (less written off, £270 11s. 7d.) ..			270 11 7	
							Wells, Biringan (less Depreciation, £73 10s. 6d.) ..			514 13 6	
							Loose Plant (less Depreciation, £25 19s. 5d.) ..			297 14 8	
							Office and Store Furniture, &c. (less Depreciation, £51 13s.) ..			153 13 5	
							Automatic Fire Alarm, Brisbane (less Depreciation, £91 7s.) ..			733 8 0	
							Live Stock (less Depreciation, £4) ..			13 0 0	
							Sundry Debtors ..	41,969	7	5	
							Less Reserve for Bad Debts and Discount ..	4,550	0	0	37,419 7 5
							Cash in Hand and in Transit ..			1,029 15 9	
							Stock on Hand ..			34,767 7 5	
							Stock on Consignment ..			175 18 8	
							Profit and Loss Account—				
							Net Loss, 1923-24 ..	6,479	5	8	
							Less transfer to Appropriation Account ..	4,791	3	4	1,688 2 4
											£101,755 7 10
											£101,755 7 10

I have examined the books, accounts, and vouchers of the Forest Service Sawmills to 30th June, 1924, and certify that this balance-sheet, together with the attached trading and profit and loss accounts, is correct and agrees therewith.

J. T. KEENAN, F.F.I.A.,
Audit Inspector.

9-10-24.

S. V. GARDINER, A.F.I.A.,
Acting Accountant.

QUEENSLAND FOREST SERVICE SAWMILLS.

AGGREGATE ACCOUNT.

TRADING ACCOUNT.

		£	s.	d.			£	s.	d.
To Stock		38,754	7	8	By Sales		166,469	18	7
„ Purchases, Logs, &c., including Royalty		113,466	5	5	„ Stock		34,767	7	5
„ Cartage Sawn		1,721	17	3					
„ Wages		27,168	7	11					
„ Gross Profit		20,126	7	9					
		<u>£201,237</u>	<u>6</u>	<u>0</u>			<u>£201,237</u>	<u>6</u>	<u>0</u>

PROFIT AND LOSS ACCOUNT.

		£	s.	d.			£	s.	d.
To Audit Fees		80	0	0	By Gross Profit		20,126	7	9
„ Bad Debts		2,278	3	0	„ Rent		368	15	10
„ Cartage		872	8	2	„ Net Loss		6,479	5	8
„ Consignment Account (Loss)		278	17	10					
„ Commission		14	11	8					
„ Discount		6,809	5	8					
„ Depreciation		1,754	7	3					
„ Fire Insurance		978	17	9					
„ Ground Rent		12	0	0					
„ Holidays		915	0	0					
„ Interest		4,709	3	10					
„ Maintenance, Tramway, Birimgan		70	13	6					
„ Office Expenses		353	4	4					
„ Repairs and Maintenance		2,162	10	4					
„ Reconstruction Sleeper Mill, Birimgan		270	11	7					
„ Salaries		2,719	2	11					
„ Sick Pay		107	9	11					
„ Trade Expenses		1,500	19	4					
„ Travel Expenses		389	14	8					
„ Unemployment Insurance		108	0	6					
„ Workers' Compensation		589	2	0					
		<u>£26,974</u>	<u>9</u>	<u>3</u>			<u>£26,974</u>	<u>9</u>	<u>3</u>

PROFIT AND LOSS APPROPRIATION ACCOUNT.

		£	s.	d.			£	s.	d.
To Depreciation Written Off		3,400	0	0	By Balance, 30th June, 1923		18,414	0	1
„ Reserve for Depreciation		6,550	0	0					
„ Reserve for Stock Valuation Adjustment		3,400	0	0					
„ Rebate of Log Export Fees		47	0	6					
„ Purchases Account (Prior to 30th June, 1923)		225	16	3					
„ Transfer to Profit and Loss Account		4,791	3	4					
		<u>£18,414</u>	<u>0</u>	<u>1</u>			<u>£18,414</u>	<u>0</u>	<u>1</u>

The respective positions of the several units of the undertakings for the period covered by this report are as follows:—

Taromeo Mill	Profit	£4,481
Silkwood	Profit	232
Birimgan Mill	Profit	142
Imbil Mill	Loss	1,406
Injune Mill	Loss	2,261
Brisbane yards	Loss	7,667
Net loss for the year		<u>£6,479</u>

During the previous few years of Forest Service management, however, there had been accumulated profits, amounting to £18,414, and after £3,400 had been written off assets the position at the end of the year 1923-24 was as follows:—

Accumulated—Profit and Loss Account—Loss £1,688.

Reserves—£9,950.

It appears desirable now to apply these reserve funds available in a reconstruction of the defective units of the undertaking. The Silkwood Mill, which is unsatisfactorily

located and planned, needs relocation and rebuilding, possibly in the Tully area. The Imbil mill is a declining investment in its present site and might well be rebuilt as two bush mills located in the Yabba and Manumbar forests respectively, utilising in the process machinery from the Injune mill which was closed in 1923, owing to losses resulting from the drought-stricken condition of the district which it served.

The Board intends to submit proposals for the utilisation of the reserves in the general betterment of its sawmilling undertakings. In the meantime it has made analysis of the causes of loss on the 1923-24 operations. An important contribution to this loss was the Brisbane timber-yards, the Manager of which resigned after the close of the operating period.

Advantage has been taken of this resignation to review the general organisation for the mills, and the proposals of the 1923 report have now been adopted, whereunder the general management is centralised at Head Office, to which the overhead accountancy work has been transferred.

Appendix B.

FORESTRY.

RETURN OF COLLECTIONS UNDER THE TIMBER AND QUARRY REGULATIONS FOR THE YEAR 1924.

District.	License Fees.			Royalty.			Deposits.			Totals.			
	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	
Benarkin													
Brisbane													
Bundaberg													
Dalby													
Gladstone													
Gympie	93	0	0	311,503	8	5	4,748	9	8	316,344	18	1	
Maryborough													
Mary Valley													
Nanango													
Warwick													
Atherton	62	16	6	30,130	8	7	2,080	19	10	32,274	4	11	
Barcaldine	17	14	6	103	6	6	9	19	6	131	0	6	
Blackall	7	6	0	0	17	4				8	3	4	
Boulia	2	2	0	0	14	6				2	16	6	
Bowen	18	2	0	693	14	4	38	13	0	750	9	4	
Burketown	4	14	6	5	0	10				9	15	4	
Cairns (included in Atherton)													
Charleville	20	6	6	0	2	4	21	14	2	42	3	0	
Charters Towers	23	6	0	1,014	0	1	42	0	0	1,079	6	1	
Clermont	7	3	0	1,774	13	8	20	0	0	1,801	16	8	
Cloncurry	10	6	0	136	1	1	49	10	0	205	18	1	
Cooktown	3	6	0	75	9	11	12	0	0	90	15	11	
Cunnamulla	8	12	6				13	7	0	21	19	6	
Gayndah	4	10	6	230	3	3	7	13	6	242	7	3	
Georgetown	0	5	0	0	6	9				0	11	9	
Goondiwindi	8	5	0	340	15	0	33	10	0	382	10	0	
Hughenden	31	16	0	520	7	1	109	0	0	661	3	1	
Ingham	41	0	0	749	14	9	69	10	0	860	4	9	
Inglewood	6	4	6	1,295	8	6	86	0	0	1,387	13	0	
Innisfail	32	19	0	2,462	10	11	174	15	0	2,670	4	11	
Isisford	1	4	10							1	4	10	
Jundah	5	8	0	7	15	6				13	3	6	
Longreach	13	17	0	110	0	9				123	17	9	
Maekay	19	19	0	5,515	0	4	48	0	0	5,582	19	4	
Normanton	3	16	0	5	13	0	7	0	0	16	9	0	
Port Douglas	0	5	0							0	5	0	
Rockhampton	43	8	6	3,519	19	1	131	18	11	3,695	6	6	
Roma	4	17	0	320	6	6	58	15	0	383	18	6	
Springsure	7	2	6	391	15	6	70	0	0	468	18	6	
Stanthorpe	1	5	0	117	4	10	34	4	2	152	14	0	
St. George	7	3	0	20	6	8	3	19	3	31	8	11	
St. Lawrence	0	15	0							0	15	0	
Surat	0	10	0	5	7	0				5	17	0	
Tambo	6	5	0	44	13	2				50	18	2	
Taroom	1	2	6	6	19	10	1	0	0	9	2	4	
Thargomindah	0	4	0							0	4	0	
Toowoomba	12	5	0	981	19	7	31	12	6	1,025	17	1	
Torres	8	4	0	64	15	4	1	0	0	73	19	4	
Townsville	27	11	0	715	15	3	22	15	6	766	1	9	
Windorah	2	10	0	1	0	0				3	10	0	
Winton	20	16	6	59	0	9				79	17	3	
Totals	£	602	7	4	362,924	17	5	7,927	7	0	371,454	11	9

