

QUEENSLAND FOREST SERVICE.

Annual Report of the Director of Forests for the Year ended
31st December, 1922.

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Brisbane, 17th October, 1923.

SIR,—I have the honour to present to you the Annual Report of the Director of Forests for the year ending 31st December, 1922.

I have, &c.,

E. H. F. SWAIN, Director of Forests.

The Hon. W. McCormack, M.L.A.,
Minister for Public Lands, Brisbane.

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INTRODUCTION.

Forestry in Queensland in 1922 has two distinct aspects:—

1. The sale of the old timber crop.
2. The production of a new timber crop.

The immediate task has been to dispose to the best advantage of the old timber crop bequeathed to the community by nature. The task has been rendered complex by pioneering circumstances, by the demands of new settlement for the old forests, by the blinding of the nuclear community to the necessity for preserving timber because of the need for destroying timber, by the difficulties of improvising a staff and of converting an official department into an efficient selling agency, and by the popular clamour for the State's timber assets to be applied to the breaking of the timber market.

At this date, the community possesses in the Harvesting and Marketing Branch of the Forest Service an effective official agency for the logging and harvesting of the State's forest resource and its delivery to the consumer in the shape of log, sawn, hewn, pole, or split material. To that end the Forest Engineering personnel and the State-owned Forest Service Sawmills and Timberyards have contributed.

The Forest Service Sawmills and Timberyards, for the year ending 30th June, 1922, paid dividends to the Treasury, as interest, to the extent of £3,666, and in addition yielded £4,882 in profits upon a price list basis somewhat lower than that of Price Commissioner's fixed prices.

From 1917 to 1922, the gross log sales revenue of the Forest Service increased from £66,200 to £267,816.

Of this amount the sum of £4,994 was reinvested in new crop production in the shape of regeneration operations and other processes and experiments in local silviculture.

The amount transferred to the Treasury as the surplus of Forestry in Queensland for 1922 was £109,198, bringing the accumulated transfers of this nature to £858,597 for the past period of nineteen years.

The point that it is now necessary to make is that the second aspect of forestry, that relating to the production of a new crop, the Branch of Silviculture, calls insistently for immediate development, and for that purpose assured funds for reinvestment are required, and, as has happened in all the other States of Australia and of New Zealand, a modern Forestry Bill is required for Queensland, if Queensland is to take to itself a modern policy of State Forestry.

In the meantime, with the extremely limited funds available for reinvestment for new crop production, little more can be done except experiment. Most of the expenditure of the £4,994 devoted in 1922 to Silviculture was in such experimentation, study, and investigation. Whilst the results of these disclose the existence of local climatic difficulties with respect to plantation work pure and simple, the prospects of the successful application of natural regeneration measures to our Hoop Pine, Maple, and Hardwood forests are excellent. So far as planting difficulties are concerned, these are related to the summer-rainfall winter-drought case of Queensland, resulting in insolation troubles in summer and drought mortality in winter planting. To meet the situation, a special planting tube has been devised which promises high and economical success.

Whilst these experiments have been proceeding and whilst the rate of growth of established plantings is high and indeed often phenomenal, the Forest Service has had abroad an officer engaged in study in silviculture, working plans and general forestry. This officer, Mr. V. A. Grenning, Queensland Rhodes Scholar for 1919, after completing his diploma course in forestry at Oxford University, is proceeding to India and the Philippines to study tropical measures applicable to Queensland.

The development, under the Forest Engineer, of a clearly defined Harvesting and Marketing Branch for the effective disposal of the old timber crop implies the parallel development under silvicultural management of the sister branch of Silviculture with its task of producing the next timber crop for Queensland.

At this date Queensland is within clear sight of the end of its important timber resource. In five years' time, there will be scarcely a "Maple" tree outside the State Forests, and upon the State Forests the "Maple" resource is so limited that sale must be restricted considerably. Fortunately, it is definitely established, by fruitful results indeed, that a new "Maple" crop may be produced by the forester, but in the meantime the community must be content with a severe rationing of its most valuable cabinet-wood. The same may be said almost of Hoop and Bunya Pine. The original 2,500,000 acres of this valuable coniferous wood have dwindled to 1,000,000 acres, capable of yielding only 40,000,000 s. ft. of timber per annum, as against the present demand for 120,000,000 s. ft. now being satisfied from farm lands in process of clearing for cultivation. Of hardwood it may be said that the chief resources of Queensland went with the farming development along the North Coast Line, and in five years' time the Forest Service expects to have to go out 50 miles to get Ironbark girders.

The Red Cedar resource is now restricted to Eungella Plateau, of all places in Queensland the only one free from the Red Cedar twig borer, a pest which renders impossible the reproduction of Red Cedar forests.

Of Kauri Pine the southern resource is utterly gone. In North Queensland, a considerable stand still exists.

In no other country in the world are so many valuable timber species collected together as in the remnant forests of Queensland. It is the duty and the profit of Queensland to conserve and to farm these remnant forests to a greater productivity.

This cannot be done without funds. It is a principle of forest legislation in all States of Australia that forestry surpluses shall be reapplied to forestry purposes. If that general example be followed by Queensland, then the junior Forest Service Branch of Silviculture may attain to equal eminence with that of its sister Branch of Harvesting and Marketing, and secure equally effective results, to the end that Queensland shall not be without timber and a timber industry what time the four remaining timber exporting countries of the world decide that they too no longer have more than they need for their own requirements.

If there is one clear certainty in industry it is that not only is timber a necessity of industry, but its use is increasing per head of population in every place on earth, despite the use of substitutes.

Queensland cannot do without timber or without forests, and the present situation is such that the Forest Service is justified in calling upon the community to support its endeavours to avert the full effects of the forthcoming timber famine.

AUSTRALIAN FORESTRY CONFERENCE.

An epoch in Queensland Forestry was marked by the sessions at the end of March and the beginning of April of 1922 of the Australian Forestry Conference.

The sessions of the Conference were held at Parliament House, with the exception of one sitting at Imbil.

The delegates paid a visit to Gympie and later to Imbil, where a tour was made through portion of the Brooloo State Forest.

As a result of the Conference many resolutions were carried. Perhaps the resolution of most consequence to Queensland is that which supports the establishment for Queensland of a Forest Service with the same degree of autonomy as that enjoyed by the Western Australian Department, and with its activities safeguarded by the provision of a permanent forest estate and definite allotment of finances.

QUEENSLAND FORESTRY ASSOCIATION.

Synchronously with the meeting of the Australian Forestry Conference, the Queensland Forestry Association was launched.

This Association has as its first President, His Excellency the Governor of Queensland, Sir Matthew Nathan, G.C.M.G.

Its purpose is to act as the Queensland Section of the British Empire Forestry Association, and to promote an interest in the cause of Forestry in this State.

During the year the Governing Council and its sub-committees rendered the Director of Forests valuable assistance in the framing of a Forestry Bill and in other directions.

THE CROWN FOREST ESTATE.

At the end of 1922, an area of approximately four and a-half million acres was held as forest reservations. This figure is slightly over 1 per cent. of the State area, as compared with 8 per cent. in Victoria, and 3.4 per cent. in New South Wales.

It represents 75 per cent. of the minimum area of 6,000,000 acres laid down by the Hobart Forestry Conference as necessary for Queensland. The total acreage of reservations advanced during the year by about 8 per cent.

The slenderness of the reserved forest area in this State must give food for reflection; and in the circumstances it is regrettable to find in certain timber districts local bodies so entirely oblivious to necessity and to the great wealth created by their local timber industry, as to press for the revocation of the forest reservations basic to that industry.

PERMANENT RESERVATIONS.

STATE FORESTS.

Fourteen areas, aggregating 89,717 acres, were created State Forests during 1922.

NATIONAL PARKS.

The area of National Parks was added to by the dedication to this purpose of a small area of 224 acres in the Parish of Buaraba, which was noted as a beauty spot.

At 31st December, 1922, the area of National Parks was 153,540 acres.

PROVISIONAL RESERVATIONS.

Twenty-one new Timber Reserves were proclaimed during the year, a total of 320,169 acres being added to the reserved forest area in this way. After allowing for variations by recomputation and areas excised and classified as State Forest, the net addition was 249,862 acres.

At the close of 1922, the area of provisional reservations was 2,972,697 acres.

The following schedule illustrates the changes in the forest area during the report period :—

STATE FORESTS		No.	AREA IN ACRES.
31st December, 1921	.. .. .	103	1,320,647
Proclaimed 1st January, 1922, to 31st December, 1922	.. .. .	14	89,717
		117	1,410,364
TIMBER RESERVES.			Acres.
31st December, 1921	.. .. .	..	2,722,835
Made State Forests	.. .. .	43,947	
Cancelled	.. .. .	26,317	
Decrease by recomputation	.. .. .	1,043	
Total decrease	.. .. .	71,307	2,651,528
Added since 1st January, 1922	.. .. .	..	320,169
Increase by recomputation	.. .. .	..	1,000
			2,972,697
Total forest reservation at 31st December, 1922	.. .. .	..	4,383,061
NATIONAL PARKS.			Acres.
National Parks at 31st December, 1921	.. .. .	..	153,316
Proclaimed 1st January, 1922, to 31st December, 1922	.. .. .	..	224
			153,540
Total	.. .. .	..	4,536,601

RESUMPTIONS OF TIMBER LANDS.

An area of 224 acres in the parish of Buaraba, in the Ipswich District, was repurchased for £350 and proclaimed a National Park.

ALLOCATION OF FOREST AREAS.

The distribution of the reserved forest area is shown in the following table :—

RETURN OF STATE FORESTS, TIMBER RESERVES, AND NATIONAL PARKS IN THE STATE ON THE 31ST DECEMBER, 1922.

District.	STATE FORESTS.		TIMBER RESERVES.		NATIONAL PARKS.	
	No.	Area in Acres.	No.	Area in Acres.	No.	Area in Acres.
Atherton	7	40,890	3	18,285	..	..
Bowen	..	..	6	76,153	..	..
Brisbane	23	76,737	45	121,187	8	47,889
Bundaberg	5	64,770	24	79,203	..	..
Cairns	2	38,681	3	63,260	1	79,000
Charters Towers	..	..	1	125,000	..	..
Clermont	..	..	5	208,880	..	..
Cooktown	..	..	5	418,070	..	..
Dalby	5	368,061	18	223,617	..	..
Dalby and Nanango	..	..	..	..	1	22,500
Gayndah	..	..	15	56,525	..	..
Gladstone	5	37,007	15	141,617	..	..
Gympie	14	87,095	36	216,386	1	106
Herberton	2	731	5	20,793	1	270
Ingham	..	..	3	96,728	..	..
Inglewood	3	68,620	8	22,965	..	..
Innisfail	..	..	2	23,810	..	..
Ipswich	10	82,830	34	75,825	1	224
Mackay	..	..	14	249,884	..	..
Maryborough	7	257,840	25	102,386	1	100
Nanango	26	115,698	13	68,207	..	..
Port Douglas	..	..	5	178,680	..	..
Rockhampton	2	48,320	9	214,182	1	216
Roma	1	8,695	5	18,401	..	..
Springsure	1	69,000	2	20,440	..	..
Taroom	..	..	1	2,240	..	..
Toowoomba	3	17,989	4	35,450	..	..
Townsville	..	..	1	65,000	..	..
Warwick	1	27,400	8	29,283	2	3,235
Windorah	..	..	1	240	..	..
	117	1,410,364	316	2,972,697	17	153,540

THE FOREST AREA, 1900-1922.

The fluctuations in the total reserved forest area for the State during the period 1900-1922 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 .. .. .	..	416,872	..	..	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	17	153,540	2,972,697	4,536,601

TECHNICAL OPERATIONS.

SILVICULTURE.

The reforestation activities of the Forest Service in 1922 cost Queensland the sum of £4,994, which represents a reinvestment in new crop production of 2.86 per cent. of the net proceeds of the sale of the old crop during the same period.

The reforestation expenditure was distributed over the State as follows:—

	Per cent.
Gympie District	47
Benarkin	14
Atherton	11
Fraser Island	24
Other	4

Following is a brief résumé of some of the work done.

GYMPIE.

Eleven thousand Hoop Pine plants planted on Brooloo Forest; 40 per cent. survival—heavy mortality from drought.

One hundred and sixty acres felled ready for planting.

Seed of Cypress Pine, Silky Oak, &c., sown *in situ* over 100 acres.

One thousand acres treated for natural regeneration.

BENARKIN.

Seven hundred and four acres liberated for Hoop Pine, at 12s. per acre.

Thirty acres Yellowwood treated for regeneration.

Eight hundred and forty-eight acres thinning and improvement of Hardwoods.

Three hundred and eighteen acres silvicultural ringbarking.

Small open root planting of Hoop Pine was total loss owing to drought; the use of the Weatherhead planting tube will reduce the planting risk in future very considerably.

ROCKHAMPTON.

Ten thousand plants of Hoop and Kauri Pine propagated under arrangement with the Curator, Botanic Gardens, Rockhampton, to whom acknowledgement is due for his cordial assistance.

Twenty acres prepared for planting on Reserve 20, Maryvale.

NORTH QUEENSLAND.

One hundred and fifteen acres in various stages of treatment for Maple reproduction on Gadgarra State Forest.

Twenty acres on Barron State Forest prepared for Red Cedar reproduction.

Forty acres on same forest planted with 2,000 plants of Cedar, Maple Hoop and Kauri Pine, and *Pinus canariensis*.

FRASER ISLAND.

Ten thousand Hoop Pine; 2,000 other plants planted.
Six pounds Cypress Pine seed sown *in situ*.
Two hundred acres treated for natural regeneration.

The year was a bad one climatically, and the practice of silviculture limited for that reason; the small and desultory attempts at planting were generally unsuccessful owing to drought, but liberation work generally proved safe and profitable.

The reinvestment in new forests of only £4,994 when the gross revenue from the old forests amounted to £267,816 may appear, in face of the impending Queensland forest shortage, as a mere tinkering with a colossal issue.

The problem of forestry for Queensland, however, is not a simple planting out of potted plants by the million. The exotic conifers that have succeeded so admirably in plantation in the Southern States and in New Zealand, are for the most part unsuited for summer-rainfall Queensland, whilst the tropical conditions of winter droughts and summer insolation make planting time in this State a gravely uncertain quantity.

The responsibility of forestry in Queensland is to perpetuate and improve the productivity of the fine native forests of which it finds itself now in rich possession—the Silkwood and Silky Oak forests, the Red Cedar forests, the Hoop and Bunya and Kauri Pine forests, the forests of Ironbark and Spotted Gum, and other Eucalyptian Hardwoods, and the forests of coastal and western Cypress Pine.

Queensland may well be styled the timber treasury of Australia, for in her forests are many riches in wood—the chief cabinetwood and softwood resources of the Commonwealth.

The regeneration of these valuable timber lands by natural means has been and remains the chief concern of the Forest Service, and to that consummation have been applied the silvical studies and reforestation costs of the past seven years. From the mass of experiments and investigations which have characterised those seven lean seed years have detached themselves the following general conclusions:—

MAPLE SILKWOOD.

The Maple Silkwood and Silky Oak forests of Northern Queensland may be reproduced economically by natural regeneration in groups under shelterwood, by three or four successive improvement and liberation fellings. The lesson of the Gadgarra State Forests is that by this method, Maple saplings may be materialised in thicket-like formations, where nature produced unaided only a scattering of smothered weaklings. On this forest, in 1922, an area of 115 acres was dealt with for Maple reproduction; 30 acres being brushed for the first time, 20 acres for the second, and 65 acres for the third. The total area now completely restocked on this forest is 330 acres.

KAURI PINE.

Some forty or fifty years ago, on Fraser Island, was made the first attempt to reproduce the valuable Kauri forests, then fast being decimated. Basing the attempt upon the theory that as Kauri trees grew naturally in jungle, thus also should they be planted, narrow tracks were cut through the Bogimba scrubs and Kauri seedlings planted along them at intervals. At this date many of the seedlings have survived the ensuing half century of neglect, but they are no greater than walking sticks, whereas Kauri plants recently set out in open plantation advanced 3 to 7 feet in height during the twelve months, and individual Kauri Pine trees, four years old, are up to 40 feet in height. Finally after forty years of suppression, the liberation, several years ago, of the Bogimba Kauri dwarfs has resulted in stupendous development.

Dependent upon adequate supplies of seed being obtainable, it may be said at this date that Kauri Pines are successful planters, increase rapidly in open plantation or with a mixture of seed-spotted Cypress Pine, and will occupy prominent place in the new forest planting schemes of the Queensland future. The Fraser Island nursery holds 45,000 of these plants ready for planting out in 1924. The species is "very tenacious, frost tender and a shade bearer when young, but grows rapidly when fully exposed to the sun. Most of the planted Kauri on the Island made a height growth of 6 ft. in the year." An extraordinary feature, as discovered by Deputy Forester Petrie, is that the nursery output may be theoretically doubled by lopping the tap-root to make two plants grow where one only grew before.

The method adopted is to clip the tap-root of growing seedlings and replant the clipped pieces, which in turn grow into seedlings.

HOOP AND BUNYA PINE.

These species represent the mainstay of the Southern Queensland timber industry, and upon their reproduction depends the life of that industry. The most encouraging feature with respect to the silvical future of the Hoop and Bunya Pine forests, is the comparative abundance of natural regrowth of this species along scrub edges and in the more open quarters of the forest itself, and the extraordinary growth response made by apparently badly suppressed species when subjected to liberation at the hands of the forester. In the process of liberation of dominated or suppressed *Araucaria* reproduction through the Hoop and Bunya forests of Southern Queensland, it has been found that the

advance growth is greater than has been suspected, and this fact gives encouragement to the belief that our pine forests may yet be reproduced by an economical combination of assisted natural regeneration under shelterwood aided by interplanting.

A typical example of the procedure is that of the Western Creek 5-acre Yellowwood regeneration experiment on Brooloo State Forest, the Forest Factor's notes thereon being as follows:—

“January, 1921—5 acres brushed of all tree weeds, vines, and all useless and crooked trees girded. Yellowwood trees on the area are flowering.

“April, 1921—Planted (shelterwood) 200 1½-0. Hoop Pine.

“October, 1921—Yellowwood seed has fallen; heavy crop.

“February, 1922—Found 13 Yellowwood seedlings.

“December, 1922—Counted 50 Yellowwood seedlings; regeneration of Hoop Pine on the area looks promising.

“June, 1923—A heavy crop of seed pods showing on the Yellowwoods; area opened up to have a correct count of all regeneration on the area.

“Counted—Yellowwood	..	..	..	..	1,675
Hoop Pine	..	..	..	..	380
Bunya Pine	..	..	..	..	112
Crow's Ash	..	..	..	..	158
Bumpy Ash	..	..	..	..	5
Halfordia drupifera	..	..	..	..	36
W. Cedar	..	..	..	..	25
Red Cedar	..	..	..	..	1
Silky Oak	..	..	..	..	4
P. Poplar	..	..	..	..	116
White Bean	..	..	..	..	9
Black Bean	..	..	..	..	30

Total 2,551

“Yellowwood plants range from 4 in. to 6 ft. 6 in.

“Three hundred and eighty Hoop Pine includes 197 that were planted; only 3 deaths occurred.”

Whilst much of the liberation and interplanting type of work has been attempted in the Hoop and Bunya type, and with encouraging success so far, the method of clear felling and planting has also been heavily essayed in the Brooloo Forest. Despite planting time uncertainties, droughty periods of plant establishment, and the ravages of bush rodents, Hoop Pine has, by its own native hardihood, secured for itself a place in the sun as an open-root planter. There has been developed by Deputy Forester Weatherhead, however, a spring planting tube which will resolve many of the planting difficulties of this and other species under tropical planting conditions, and facilitate extensive operations when the 1924 seed year permits. Hoop Pine will rank second only to Kauri Pine for plantation work. The method of natural regeneration under shelterwood, however, will be developed to a major extent and planting will become supplementary and complementary to this basic natural method.

Since 1917 there has been no seed year for Hoop Pine, and it may be said also no really good planting year. The 1924 seedfall promises to be satisfactorily heavy, and the Weatherhead planting tube should dispose of some of the climatic planting difficulties. The development of the oldest experimental planting plot for Hoop and Bunya Pine, that of Derrier, Imbil, planted in 1917, is such as to justify optimism for the future of these species in forest in Queensland.

So far as Bunya Pine is concerned, the nutrient value of the seed is such as to make it eminently desirable to the wallaby, with the result that natural reproduction is little in evidence in the “scrubs.” Whilst wire netting may solve the problem, Deputy Forester Petrie's prescription is being initiated in the case of a lantana-infested compartment of the Imbil Forest at Derrier—viz., conversion to Rhodes Grass paddock for the agistment of timber teams, with the Bunya nuts dibbled in beside every root and stump in positions difficult of wallaby approach. The theory is that Bunya establishment from seed-spotting is certain, and that once established the prickly leaves will subsequently provide their own protection against rodents or cattle, whilst the returns derived from agistment during the period of establishment will be sufficient to launch the plantation free of debt.

Somewhat the same idea is contained in the proposition that banana pockets shall be laid down to a mixed plantation of bananas and alternate White Beech, Maple, or Hoop Pine plants, the end of five years seeing the banana plantation financially finished and the forest plantation richly launched and entirely free of debt and interest charge.

These are some of the unusual and extremely interesting facts of silviculture in Queensland, whose practice should bring high profit, not only because of these features but because of the extraordinary market values assigned to the special creations of this cabinet-wood State. There must be, however, continued and increased investigation, experiment and study, and the inquiries abroad of Mr. V. A. Grenning, Working Plans Officer, now in India, should be of very great value to Queensland in her future silvical enterprises.

EUCALYPTUS REGENERATION.

It may be said almost that if you protect the Eucalyptus forest from fire, it will do the rest itself. And this is true also of Queensland where nearly every Eucalypt is bark-scorched and root-hurt, stag-headed and white-ant eaten, because from time immemorial the grass and the gum trees have been legitimate fire-makings for all who had a fire-stick or a modern match to play with. But whilst adult trees stand damaged, and recurrent seedling crops are swept away in their youth by the periodic bush fires which have marred the hardwood forests of Australia, under fire protection by the forester, the Eucalypt forest may be regenerated indeed by axe and fire. This common experience of forestry in Australia has been shared by foresters in Queensland, where the making of a rough grass paddock for timber teams at Derrier, Imbil, has produced not only grass sufficient to enable the reaping of the local timber crop but has generated a succeeding crop of fine straight Ironbark and Blue Gum saplings sufficient for a new forest of hardwood thereon.

Under fire protection and residential tending there should be no difficulty in perpetuating the hardwood forests of Queensland, if there be funds available.

On Fraser Island, Spotted Gum increased 2 in. in girth in the year, Blackbutt and Turpentine up to 1½ in., and Tallowwood 1¾ in. Brush Box grew slowest, with only ¾-in. girth increment.

On Area 6, four-year-old Blackbutt averaged 20 ft. in height, Tallowwood 18 ft., Red Stringybark 13 ft., Ironbark 8 ft. On Area 11, Spotted Gum and Blackbutt averaged 30 ft. in four years with 45 ft. as the highest. Yellow Stringybark is the slowest, with only 20 ft. height growth in four years. On Area No. 2, consisting of fair upland forest, Spotted Gum, Red Stringybark, and Blackbutt, seed-spotted in 1919, show an average height growth of 40 ft. Deputy Forester Epps adds the observations:—

“Blackbutt is proving that it can adapt itself to varying degrees of soil quality, growing splendidly on the better soils and doing fairly well on the poor.

“It is a tree, though, that I would rather see displaced in favour of Tallowwood. It constitutes a fire menace by reason of the large quantity of hard branchlets and bark shed by it, and in my opinion does not enrich the soil but rather robs it.

“Tallowwood is a much more valuable tree, and seems to make a more regular growth than Blackbutt. Whilst on good soil Blackbutt will dominate and crush Tallowwood out (example on Area 11), on poor soil it makes greater height growth than Blackbutt (demonstrated on Area 6). It seems to me that Tallowwood covers the soil better and improves it by its bark and leaves litter. For these reasons, and because the timber commands a higher price, I am in favour of seeding or planting our waste or poorer soils with Tallowwood rather than Blackbutt. Cypress Pine and Tallowwood should form an interesting combination.”

CYPRESS PINE.

The Forest Service is concerned primarily with two species of Cypress Pine—the first that of Fraser Island and the coastal sands, *Callitris arenosa*, the second that of the interior, *Callitris glauca*, which occupies the sand ridges of the middle west and provides the white ant resistant building timber of that region.

The reproductive ability of the latter species is evidenced by its abundant presence in thicket formation even in the droughty regions of Western Queensland. On the dry sands of Fraser Island its sister species displays a similar fecundity, offering the possibility (subject to fire protection) of cheaply establishing a forest. Seed of this species sown *in situ* at Bogimba in 1914, eight years previously, is now represented by trees averaging 23 ft. high and 8 in. girth. Naturally sown Cypress Pine, near the coast of the old Mission Station, is now an average height of 30 ft. and average girth of 17 in. at 12½ years of age, the largest being 36 ft. high. Area No. 6, seed-spotted in February, 1918, with Cypress Pine, is now very closely packed with plants, whose average height is 5 ft. 6 in. It is noted by the Deputy Forester that the Cypress growing in the centre of this area where there is a ground cover of grass and shrubs, the average height is only 3 ft. 6 in., whereas the height of the plants along the edge of the ploughed firebreak is 6 to 7 ft. From this fact it is argued that the ground should be prepared by harrowing when adopting the method of sowing Cypress Pine *in situ*.

NEW PLANTING TUBE.

Following is a description of the Weatherhead spring planting tube, which is expected to have an important influence in the future plantation projects:—

The tube is a sheet of galvanised iron to various dimensions as required, bent to form a cylindrical tube, edges overlapping ½-in. Tube is closed by means of circular tin band ½-in. wide, which is slipped over tube, the natural spring in the iron automatically tightening the tube. The tubes are then placed on a concrete bed, and filled with a compost suitable to the species being dealt with. The seed is sown in the compost and the seedling is allowed to grow in the tube until required for planting out.

In planting, the plants are transported to the planting sites in the tubes. As the mattock holes are made the tube is placed in the hole and the band lifted off to allow the iron to expand. Earth is packed loosely round the expanded tube which is then lifted out, leaving the plant in its native earth well established in its permanent location, and well equipped to bear the ordinary circumstances of life in the plantation site.

Variations of this method having the effect of shortening labour are now under consideration.

UNIT COSTS OF SILVICULTURE.

Following are some of the 1922 unit costs of silvical work, in the Gympie District, on a day labour basis and a basic wage of £4 1s. 7d. per week of 44 hours:—

Scrubfelling (Plantations).

	£	s.	d.	
R. 135, Brooloo—Western Creek L.A.	..	3	17	6 per acre including incidentals.
Casey's Gully L.A.	..	3	15	0
Derrier L.A.	..	3	12	0
R. 235, Amamcor	..	3	12	6
R. 26, Kilkivan	..	2	15	0
R. 355, Kilkivan	..	1	12	6
R. 124, Glastonbury	..	3	12	0
R. 287, Woowoonga	..	3	7	0
R. 502, Gympie (Bastard Scrub)	..	3	10	0

Liberation.

	£	s.	d.	
R. 135, Brooloo—For underplanting, not heavy liberation	..	0	12	6 per acre.
Freeing young pine only (heavy)	..	1	2	3
R. 256, Kandanga—Light liberation	..	10s.	0	17 6

Seed Spotting.

Silky Oak or Cypress in 12 ft. by 12 ft., 9s. 10d. to 11s. per acre ex cost seed about 1s. 6d. to 2s. per acre for Silky Oak seed.

Planting.

Western Creek, £2 14s. 6d. per acre 12 ft. by 12 ft., includes opening lines.
Other areas, £2 10s. per acre.

DISTRICT SUMMARY OF NATURAL REGENERATION OPERATIONS.

Gympie.

	Acres.	Cost.
		£ s. d.
Liberation of Hoop Pine	200 $\frac{1}{4}$	220 15 10
Liberation of Silky Oak	15	21 4 10
Liberation for underplanting Hoop Pine	185 $\frac{1}{2}$	239 17 8
Liberation of Beech	40	51 15 1
Forest improvement (Hardwoods)	647	172 5 4
	<u>1,087$\frac{3}{4}$</u>	<u>£705 18 9</u>

FOREST PROTECTION.

FIRES.

As would be expected from such a dry season, the danger of fires at the end of the winter of 1922 was very great.

From all districts fires were reported. At Birimgan, where the absence of a forestry staff, apart from an overseer, rendered it impossible to put into operation the fire prevention plan for the area, a serious outbreak was checked by the efforts of a gang of fire fighters organised by the overseer. Some 8 square miles of country, however, were burnt over. A couple of other outbreaks occurred, but were confined to small areas.

Dalby District reserves escaped serious fires, but minor outbreaks occurred at Braemar and Injune Reserves.

In the Bundaberg District, the Goodnight Scrub State Forest suffered damage to regeneration on the scrub edges.

Gympie District saw a number of serious fires. On the Corella Reserve, some hundreds of acres of country carrying good hardwood forest were devastated. The Kilkivan State Forests also suffered badly. The District Forester is of opinion that 75 per cent. of the fires are due to incendiarism, but the culprits are very difficult to detect.

In the North Queensland District, forest fires were numerous—these occurring on areas not under forest management.

Fraser Island was the scene of much destruction from fire during the year. The Deputy Forester reports:—

"Five separate fires appeared to start from sparks from McKenzie's loco. Whilst these were being combated a fire got away from Sub-Foreman Barton, on Area 29, and completely swept Area 1. At the same time a fire came in from the swamp across Rocky Creek and spread in the brushed part of Area 27. Thus we had fires threatening all the home plantations, a stand of 2,000,000 s. ft. of Blackbutt north of the Forest Station, Area 10 White Cliffs, Old Arboretum, Wungoolba, and various small areas along the tramline, at about the same time. By working 12 to 14 hours per day, and with the assistance of two men from McKenzie's for two days and four men from the Survey Camp, the whole of the fires were gradually got under control.

"With the exception of about 2 acres, Area 10 (White Cliffs) was saved. The old Arboretum at Wungoolba was held intact. The Blackbutt stand behind the Forest Station was saved also.

"Area 27 was nearly ready for burning, but as it was too risky to allow it to burn during the dry spell, this fire was extinguished. One hundred acres were burned over but no harm was done.

"The only damage to plantations or stands of milling timber was on Area No. 1, and the condition of this now is terrible. Only about 2 acres remains to show what the area was like. About a dozen seed trees were destroyed. The fire lines were sufficient to keep out an ordinary fire, but the recent fires were a revelation to me—sheets of flame went up over 100 ft. and pieces of burning bark and wood were carried several chains by the high winds.

"The Main Western fireline proved an effective safeguard to T.C. 1315 Area, and the result justifies the expense on more firelines of this sort. It is intended extending it southwards from the White Cliffs Lake to Wungoolba Creek to cut off the beach country from the good stand of Blackbutt northwest of the Forest Station."

Benarkin District.—Numerous small outbreaks were recorded from all over the district, but fortunately no serious outbreaks occurred.

The most serious outbreak was on Compartment 2 N.S.L.A., R. 283, where about 30 acres of young hardwood regeneration were badly damaged by an outbreak which spread into the forest from a selector's grass fire. It was nearly a fortnight before this fire ceased to give trouble.

Nine other outbreaks were recorded on R. 283, and three on R. 257.

The Deputy Forester states further:—

"On° R. 289, Yarraman, along the Tarong road, just past the tramway terminus, on one hot windy day in November, some vandal lit some twenty fires, apparently riding along the road and dropping matches into pine slash. Fortunately, not one of the fires spread for more than a yard or two square, but had the fire spread, as it very easily could have done, most serious damage to this most valuable reserve would have resulted."

FIRE PREVENTION WORKS:

Besides fire fighting work, details of which are given above, attention was given to the provision of firebreaks on various areas. Particulars are appended:—

FRASER ISLAND.

Firelines.—The following are details of firelines constructed during the year and under construction now:—

Name.	LENGTH.			Cost.	Remarks.
	Complete.		Incomplete.		
	Single chains.	Double chains.	Double chains.		
Main W. fireline	138	255	..	£ s. d. 283 15 2	Two guide lines 1 chain apart and each cleared, grubbed, harrowed 12 ft. wide, 1 chain centre strip brushed and burned £208 15s. 4d. spent altogether
Area 29	16	34	..	31 6 5	
Area 23	50	30	..	58 12 0	
Area 20 .. ..	..	8	..	9 7 6
Main E. fireline .. ..	..	111	..	78 12 6
Main E. fireline .. ..	..	..	347	130 2 10
	204	438	347	£591 16 5	

In addition, £44 15s. 1d. was spent in maintenance of 1,571½ chains of fire breaks—7d. per chain.

The following are particulars of firelines constructed on Reserves to date:—

Area	Length of Line.		Length of Boundary.	Remarks.
	Double.	Single.		
1	..	164	164	Ploughed 8 ft. wide. Harrowed 12 ft. wide. Ploughed ½-ch. wide. Ploughed ⅓-ch. wide. Ploughed 8 ft. wide, ¼-ch. between ringbarked. Harrowed ½-ch. wide. Double line harrowed 12 ft. each side.
2 and 3	..	103	103	
6, 13, 14, 15, 16, and 17	..	40	40	
7	..	13	13	
9	61	106	167	
11	17	33½	50½	
20	8	..	8	
22	136	..	136	
23	30	50	80	
27	91	209	300	
Main East fireline..	111	138	111	
West	255	138	393	
Bogimba fireline ..	..	6	6
	709	862½	1,571½	

Area No. 22—Forty-six chains of this line hoed on hillside. Propose to do away with this and put in East fireline to Deep Creek Lake.

GYMPIE DISTRICT.

Reserve.	—	Length.	Type of Break.	Per Chain.
				s. d.
R. 135, Brooloo ..	£ s. d. 11 19 10	Chains. 105	Cleared and burnt 12 ft.	2 4
R. 256, Imbil ..	15 17 10	246	Chipped (renovation)	1 4
R. 256, Kandanga ..	6 6 11	80	Cleared and chipped 7 ft.	1 7
R. 235, Amamoor ..	0 14 10	7	.. ..	2 2
R. 124, Glastonbury ..	2 19 10	..	Scattered, temp. burnt .. ..	..
R. 502, Gympie ..	4 18 7	..	Scattered, temp. burnt .. ..	..
R. 700, Gympie ..	15 14 10	360	Old roads cleaned	1 10
R. 220, Kilkivan ..	38 2 6	35	2 ch. wide, permanent	19 3
			1 ch. wide	3 9
R. 221, Kilkivan ..	11 7 2	15	1 ch. wide, permanent	9 3
	5 13 10	40	Temporary burnt lines	2 9
R. 26, Kilkivan ..	1 6 6	..	Scattered, temp., emergency .. ..	..
R. 355, Kilkivan ..	18 16 4	120	Cleared and burnt 12 ft.	3 1
R. 74, Nangur ..	Nil	..	.. ..	..
R. 287, Woowoonga ..	5 2 8	40	Burnt every year. A difficult and risky piece of work	2 7
R. 287, Woowoonga ..	24 8 8	90	Burnt and rebrushed	5 5
	£163 10 4			

Subsidiary protection work in the Gympie District is outlined as under:—

PRECAUTIONS AND PATROL, 1ST JULY, 1922, TO 31ST DECEMBER, 1922.

Reserve.	—	Remarks.
R. 235, Brooloo ..	£ s. d. 9 18 8	Protecting paddock
R. 256, Imbil ..	2 15 11	Patrolling and burning
R. 256, Kandanga ..	1 5 5	Patrolling
R. 235, Amamoor ..	.. ..	.. ..
R. 124, Glastonbury ..	1 4 3	.. ..
R. 502, Gympie ..	8 16 10	.. ..
R. 700, Gympie ..	5 19 2	.. ..
R. 220, Kilkivan ..	3 2 10	.. ..
R. 221, Kilkivan ..	0 16 2	Inspection and assessment
R. 26, Kilkivan ..	4 4 0	Patrol and assessing damage
R. 355, Kilkivan ..	10 12 1	.. ..
R. 287, Woowoonga ..	25 17 4	.. ..
R. 74, Nangur ..	.. ..	.. ..
	£74 12 8	

BUNDABERG DISTRICT.

A fire lookout station was established on the Goodnight Scrub State Forest, on Observation Hill, whence a good view of a large area of the surrounding country may be obtained.

Noxious Plants.

The Forest Service occupied itself during the year in getting rid of the noxious weeds and plants on a number of its areas under management.

The work of maintaining the Goodnight Scrub free from pear was proceeded with. This is a task rendered difficult by the heavily infested lands adjoining.

In the Gympie District, various projects were proceeded with as follows:—

ERADICATION OF LANTANA.

Reserve.	Expenditure.	Area Dealt With.		Remarks.
		Brushed and Felled.	Grubbed.	
	£ s. d.	Acres	Acres.	
Compartment 9, Casey's Gully	20 8 6	..	40	Scattered
Compartment 10, Casey's Gully .. .. .	..	..	..
Compartment 14, Casey's Gully .. .. .	..	..	..
Compartment 20, Casey's Gully	32 12 10	21	..	
Compartment 15, Casey's Gully	59 14 4	22	6	
Compartment 18, Casey's Gully	8 3 2	3	..	
Compartment-16, Casey's Gully	8 18 0	3½	..	
Compartment 3, Derrier	8 15 7	8	..	
Compartment 4, Derrier	5 11 9	..	3	
Coonoon Gibber	11 2 6	..	..		Scattered
Roads and adjacent	44 15 10	10	5	Brushed only
Miscellaneous	34 14 2	12	..	
Scattered plants	63 8 8	..	..
R. 256, Imbil	19 1 9	..	12	
R. 256, Imbil	6 10 8	9	..	
R. 235, Amamoor	53 17 3	..	126	
R. 700, Gympie	6 1 5	..	..
R. 355, Kilkivan	5 17 6	..	5	
Plantation Areas	19 2 0	..	22	
R. 124, Glastonbury	17 19 11	..	24	
R. 287, Woowoonga	6 18 10	..	..
	£433 14 8	88½	243	

Cost per acre for eradication on known areas averages £1 ls. 9d.

ERADICATION OF MISCELLANEOUS WEEDS.

Reserve.	—	Grubbed.	Remarks.
	£ s. d.		
R. 135, Brooloo	21 17 2	Scattered	Nagoora burr
R. 355, Kilkivan	1 11 4	2½ acres	Burr, cotton, &c.
R. 355, Kilkivan, plantation areas	0 7 10	..	..
	£23 16 4		

Total expenditure on eradication of noxious weeds, £457 11s. 1d.

In the Benarkin District, 30 acres of lantana were eradicated on Compartment 17, Sandy Creek L.A., R, 283, at a cost of £2 2s. 10d. per acre.

Small patches of pear and lantana in Wallaby Creek Paddock were cleared at a cost of £2 14s. 9d.

In the Dalby District, the following projects were undertaken:—

				£ s. d.
Dalby ..	R. 4, Braemar ..	Pear clearing ..	About 150 acres have been cleared and some 100 or so acres re-cleared.	127 8 4
Dalby ..	R. 337, Youlba ..	Pear clearing ..	160 acres have been cleared and a further 120 acres gone over again	185 5 4
Dalby ..	R. 93, Nudley ..	Pear clearing ..	Clearing isolated bunches scattered over the area	23 6 2

FOREST PRODUCTS INVESTIGATION.

The possession by Queensland of an extraordinary range of wood riches has left upon the Forest Service responsibility for device of a comprehensive system of wood classification and identification, which would enable more or less unknown local timber to be completely identified and compared with woods already upon the markets of the world.

At the end of 1922, this important research work had reached fruition after laborious investigation over a period of years. A Universal Index to Wood has been attempted, and within it the timbers of Queensland have gained due place. The results are now in preparation for publication.

The work upon the Wood Index leads up to the closer utilisation of the products of the Queensland forests, and in this connection the officer entrusted with the work reports as follows:—

TIMBER UTILISATION.

A considerable number of timber samples, representing a very large percentage of the known timbers of Queensland, were got together by the Forest Products Showrooms during the year. These were used for local investigation work, and for distribution purposes, samples being sent to all of the other Commonwealth States, to America, the United Kingdom, to Africa, and to France.

As a result of advertising during the year, several trucks of Laurel Ash (*Cryptocarya obovata*), both log and sawn, were sold by the Forest Service Mill for brush stocks, &c. Local motor-body builders are also now using the timber, but their source of supply is private. Other firms are also using supplies, such being obtained from private sources.

The excellent properties of Silver Quandong (*Elæocarpus grandis*) were advertised, and some supplies were obtained through the Forest Service. A good deal of business in this timber is now carried out privately.

Silver Ash (*Flindersia Schottiana*) has been advertised and a few local orders were obtained. Several small Southern orders were also supplied. As a result of its good qualities and their advertisement by the Forest Service, timber merchants have been dealing in large quantities of this timber which is used for general purposes, and for small articles such as standard and toy cricket stumps, baseball clubs, tennis racquet presses, croquet mallet heads, fishing rod butts, billiard cues, chisel, hammer, and other small tool handles.

Blush Coondoo (*Sideroxylon Richardii*).—Valuable properties as a cabinet timber proved, and the wood expected to be in extensive use shortly.

Cherry Alder (*Eugenia parvifolia*), Blush Alder (*Schizomeria ovata*), Pink Alder (*Ackama Muellieri*) tested for brush stocks. Fair quantities available at Fraser Island and elsewhere as soon as scrubs are opened up.

The experience met with by the Forest Service in endeavouring to place Queensland woods in certain new uses is stated by the officer in charge as follows:—

Boxwoods.—The Government Printing Office carried out tests on several of our Boxwoods and Bulletwoods, and their supplies in future will be met by Silver Bulletwood (*Sideroxylon australe*), White Bulletwood (*Sideroxylon Pohlmannianum*), and Dappled Boxwood (*Strychnos arborea*) instead of the imported Boxwood. The uses of our own woods for plumbers' and carpenters' tools are being investigated.

Standard Cricket Wickets.—As a result of advertising in Brisbane chiefly, and also in Sydney and Melbourne, the manufacture of this article locally is assured. Considerable satisfaction was expressed with the excellence of the articles, and committals were obtained from Brisbane, Sydney, and Melbourne merchants.

Other Sporting Gear.—As a result of investigations, endeavours are being made to encourage the making of fishing rods, baseball clubs, hockey sticks, tennis racquets, croquet mallets, and golf shafts and headsets. Several of our Queensland woods advertised for fishing rod tips have given excellent results, quite a quantity of pieces for tips and middles being sold. In consequence, the manufacture of local fishing rods has been increased. Enquiries were received for tennis racquet wedges as a result of advertising, and supplies are being sent in the new year. Several baseball sticks have been sold and given satisfaction. It is anticipated that there will soon be quite a large demand for Queensland sporting gear such as the items mentioned.

Axe Handles.—During the wet weather, on forests in the Gympie District, workmen were occupied in making axe handles for use in operations; these were made of various scrub and forest timbers, which all, though particularly the Spotted Gum coppice, proved suitable for the purpose.

DISPLAYS.

Displays were made at Brisbane Exhibition in August, and also at several country shows.

An exhibit was sent to Sydney, there to be shown in conjunction with the material forwarded by other States at the instance of Messrs. Farmers, Limited.

The Forest Products Showrooms were visited during the year by many visitors, some from overseas.

MINOR PRODUCTS.

Through the co-operation of the Forest Products Laboratory at Perth, it was possible to conduct tests of a number of woods for pulping.

At the end of the year, arrangements were being made for the collection of tanning material for examination at the same Institution.

A number of samples of gums and exudates were examined by the Department of Chemistry at the University and the Agricultural Chemist.

FOREST ORGANISATION.

The work of organising the forests by provision of logging roads and of grass and water for logging, by surveys and by the erection of accommodation for the permanent forest staffs, was proceeded with during the year.

BUNDABERG.

On the Goodnight Scrub State Forest, the paddock was improved by clearing and grubbing about 15 acres.

MACKAY.

In the Mackay District, the road to the Eungella Reserve was improved, and as a result of an expenditure of £325 the haulage difficulties previously met with were eliminated.

On Reserve 6, Eungella, a paddock of 18 acres has been felled and sown with grass seed; this paddock will eliminate much loss of time hitherto experienced by the haulers. Costs were £104.

DALBY DISTRICT.

The following projects were carried out during the year:—

HOUSING.

District.	Area.	Projects.	Particulars of Work.	£ s. d.
Dalby	R. 93, Nudley	Overseer's dwelling..	Cost to complete building.. (Dimensions of house, 24 ft. by 12 ft. with 7 ft. verandah back and front, kitchen built on back verandah. Total cost of building is £275 15s. 5d.)	19 18 1
Dalby	R. 10, Injune	Overseer's dwelling..	Cost to complete building .. (20 ft. by 12 ft. with 7 ft. verandah in front only. Total cost, £102 15s. 9d.)	96 1 9
OTHER PROJECTS.				
Dalby	R. 4, Braemar.	Ringbarking	About 100 acres have been suckered at a cost of	7 7 4
Dalby	R. 93, Nudley	Ringbarking	About 900 acres have been rung and suckered at a cost of	169 9 7
Dalby	R. 93, Nudley	Water conservation	One 2,300-yard tank completed and securely fenced with 16 ch. of fence and 20 ft. of corduroy put in	68 8 8
Dalby	R. 10, Injune	Thinning and clearing	About 250 acres cleared and suckered	117 15 6

GYMPIE DISTRICT.

Schedules are appended of the various forest organisation works carried out in this District during the year:—

ROAD CONSTRUCTION.

Reserve.	Main Road		Subsidiary Road.	Cost.	Reserve Totals.	Remarks.
	M. Ch.	M. Ch.	M. Ch.			
R. 135, Brooloo—				£ s. d.	£ s. d.	
Road 7, Section "A"	0 53	..	..	67 0 4	..	..
Road 7, Section "B"	0 30	..	..	52 17 9	..	..
Road 11, Section 1	0 40	..	..	97 6 11	..	..
Road 11, Section 2	2 0	..	..	94 17 3	..	..
Road 12, Section 1	2 0	..	..	70 17 10	..	..
Road 12, Section 2	2 24	..	..	137 1 7	..	..
Road 12, Section 3	2 30	..	..	196 16 11	..	..
Subsidiary roads	..	..	1 40	29 11 10	746 10 5	..
R. 124, Glastonbury—						
Mary's Creek road	1 50	..	..	317 15 8	317 15 8	Complete road
R. 74, Nangur—						
Main road	0 56	..	..	11 1 9	11 1 9	Complete road
	12 43	1 40	..	..	1,075 7 10	

Subsidies.		£ s. d.
Gap Road—Brooloo-Kenilworth	..	100 0 0
Culverts, Imbil	..	40 0 0
Road Improvements, Imbil	..	6 0 8
		£146 0 8

MAINTENANCE AND IMPROVEMENT ROADS, GYMPIE DISTRICT, 1ST JANUARY, 1922, TO 31ST DECEMBER, 1922.

Reserve.	Length	Cost.		Reserve Totals.		Remarks.
		m. ch.	£ s. d.	£ s. d.	£ s. d.	
R. 135, Brooloo—						
Road 1	2 12	20 9 5				
Road 2	0 72	68 5 1				
Road 3	1 35	41 16 1				
Road 4	0 52	10 13 5				
Road 5	0 57	29 11 9				
Road 6	3 60	17 6 8				
Road 7	2 18	6 17 5				
Road 9	1 4	5 1 6				
T. and E., wet weather	.. .. .	17 6 9				
Subsidiary roads .. .. .	.. .. .	101 4 10		318 12 11		Includes main snig- ging tracks
R. 256, Imbil—						
Branch Gully road	2 0	6 13 1		6 13 1		
R. 256, Kandanga—						
300 Creek road .. .. .	.. .. .	29 4 0				
300 Creek road .. .. .	.. .. .	48 11 10				
Long Gully road .. .. .	.. .. .	4 6 2		82 2 0		
R. 235, Amamoor—						
Subsidiary roads .. .. .	.. .. .	2 6 4				
General .. .. .	.. .. .	73 14 1				
Main road .. .. .	.. .. .	83 13 2				
Harry's Creek .. .. .	.. .. .	1 9 8				
Zachariah Creek .. .. .	.. .. .	13 1 4				
Manganese road .. .. .	.. .. .	15 7 11				
Coppermine road .. .. .	.. .. .	18 3 5				
Million Gully .. .. .	.. .. .	108 19 3				
T. and E. .. .. .	.. .. .	8 17 10		325 13 0		
R. 502, Gympie	1 11	47 4 0		47 4 0		
R. 124, Glastonbury	15 0	56 11 8				
Mary's Creek road .. .. .	.. .. .	85 10 5				
Elliot's Hill .. .. .	.. .. .	78 12 4		220 14 5		
R. 220, Kilkivan .. .. .	.. .. .	31 11 7		31 11 7		
R. 26, Kilkivan .. .. .	.. .. .	4 19 11		4 19 11		
R. 221, Kilkivan .. .. .	.. .. .	20 16 8		20 16 8		
R. 355, Kilkivan .. .. .	.. .. .	1 3 6		1 3 6		
Kilkivan, General .. .. .	.. .. .	2 19 0		2 19 0		
R. 287, Woowoonga .. .. .	.. .. .	12 7 1		12 7 1		
Total .. .. .	.. .. .	.. .. .		1,074 17 2		

HOUSING.

Forest.	Station.	Construction.		Improvements.		Maintenance.		Remarks.
		£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.		
R. 135, Brooloo ..	Office, Imbil ..	..	..	..	..	3 7 11	..	
R. 135, Brooloo ..	Western Creek ..	..	..	23 10 2	..	2 6 3	..	Ceiling bunkhouse
R. 135, Brooloo ..	Coonoon Gibber ..	25 12 5	..	..	..	..	..	Complete
R. 135, Brooloo ..	Derrier .. .. .	..	..	10 13 6	..	..	..	Fencing house
R. 135, Brooloo ..	Outstation hut ..	23 10 0	..	..	..	..	..	About £9 to complete
R. 135, Brooloo ..	Instructor's residence	..	..	11 4 2	..	10 9 2	..	Fence
R. 256, Imbil ..	F.S.E., Butler's Corner .. .. .	..	..	8 10 4	..	3 9 6	..	Fence and washhouse
R. 256, Imbil ..	F.S.E., Butler's Corner .. .. .	..	..	2 17 2	..	3 0 0	..	Tankstand
R. 235, Amamoor ..	F.S.E. No. 1 ..	..	..	0 10 4	..	..	..
R. 235, Amamoor ..	Bunkhouse .. ..	..	..	15 8 6	..	..	..	Roofing with iron
R. 502, Gympie ..	Hut	10 1 9	..	..	..	..	..	Removed from R. 700
R. 124, Glastonbury	Toolshed	13 3 0	..	..	..	..	..	11 ft. by 8 ft. board
R. 221, Kilkivan ..	F.S.S. .. .. .	..	..	11 4 5	..	..	..	Addition tank, &c.
R. 355, Kilkivan ..	Do. .. .. .	..	..	7 17 6	..	..	..	Addition tank, &c.
R. 220, Kilkivan ..	Outstation hut ..	33 8 5	..	..	..	..	..
R. 220, Kilkivan ..	.. .. .	23 18 6	..	..	..	..	..	Com. £254 15s. 2d.
R. 220, Kilkivan ..	Feed room	25 7 3	..	..	..	..	..	14 ft. by 10 ft. board building
R. 26, Kilkivan ..	.. .. .	6 6 9	..	..	..	..	..	Door and windows
		£161 8 1	£91 16 1	£22 12 10				

FOREST SERVICE AREAS (GENERAL), YARDS, PADDOCKS, AND GROUNDS.

Forest.	Station.	Construction.	Improvements.	Maintenance.	Remarks.
		£ s. d.	£ s. d.	£ s. d.	
R. 135, Brooloo	F.S.E., General	.. ..	.. ..	2 18 11	Grounds
Coonoon Gibber	F.S.E., General	17 4 11	.. ..	.. ..
R. 502, Gympie	Bunkhouse No. 1	.. ..	6 10 2	.. ..	F. station
R. 256, Imbil	F.S.E.	.. ..	.. ..	24 3 8	
		£17 4 11	£6 10 2	£27 2 7	

FOREST PADDOCKS.

Forest.	Paddock.	Area.	Construction.	Improvements.	Maintenance.	Remarks.
		Acres.	£ s. d.	£ s. d.	£ s. d.	
R. 135, Brooloo	1	..	..	..	9 0 4	
R. 135, Brooloo	2	..	..	20 2 3	..	
R. 135, Brooloo	3	..	..	7 6 4	1 5 4	
R. 135, Brooloo	5	..	..	0 14 1	..	
R. 135, Brooloo	6	..	..	..	1 11 4	
R. 135, Brooloo	7	..	..	12 12 4	1 4 7	
R. 135, Brooloo	8	..	..	5 19 5	7 16 10	
R. 135, Brooloo	9	..	..	..	28 2 5	
R. 135, Brooloo	10	..	..	3 11 2	1 5 11	
R. 135, Brooloo	11	300	69 15 9	..	..
R. 135, Brooloo	12	35	39 3 4	..	..
R. 135, Brooloo, Derrier	5A	30	10 0 0	..	..	Felling charged to Plantation
R. 135, Brooloo, Derrier	4A	40	10 0 0	..	..
R. 256, Imbil	14	28	111 5 0	..	..
R. 256, Imbil	Gen.	..	..	..	4 15 7	
R. 256, Kandanga	..	..	..	..	9 4 11	
R. 235, Amamoor	1	..	..	4 19 1	63 10 10	42 acres.
R. 235, Amamoor	Farm	15	15 11 1	..	..
R. 235, Amamoor	Bullock Paddock	..	22 0 10	112 7 11	..	
R. 235, Amamoor	Gen.	..	..	..	2 2 1	
R. 124, Glastonbury	1	130	106 18 9	5 2 5	..	
R. 124, Glastonbury	2	180	41 18 2	72 2 10	22 2 1	21 acres felled
R. 124, Glastonbury	3	220	53 9 8	2 7 0	..	
R. 124, Glastonbury— Forest Station paddock	..	15	76 1 5	..	..
Mary's Creek road	..	..	11 17 9	..	..	See Road Project
R. 502, Gympie	..	45	129 5 7	..	..
R. 700, Gympie	..	..	..	..	38 0 11	
R. 700, Gympie	Plantn.	..	..	36 1 2	..	
R. 220, Kilkivan	Horse	..	..	39 15 1	22 9 2	
R. 221, Kilkivan	Horse	..	..	..	19 13 9	
R. 221, Kilkivan	Forest	..	..	..	6 10 6	
R. 221, Kilkivan	2	..	..	3 14 10	..	
R. 355, Kilkivan	Horse	..	..	32 6 9	..	
R. 26, Kilkivan	Horse yard	0½	11 1 10	..	..
Thunder Creek, R. 307, Marodian	Bullock paddock	..	25 3 9	..	..
R. 287, Woowoonga	..	..	..	63 14 0	..	
		1,118½	£733 12 11	£422 16 8	£239 18 10	

Total, £1,396 8s. 5d.

BENARKIN DISTRICT.

The following projects were carried out in the Benarkin District.

Owing to the overlapping of the calendar year which covers two halves of the financial year and leaves the majority of the projects half finished, as at the end of the calendar year, the following is an approximation only and may not quite agree in some of the details with separate reports:—

Roads.—Four hundred and three chains of old roads widened, at average cost of 8s. 9d. per chain.

Seventy-nine chains of partly new road made at an average cost of 3s. per chain, covered by about twelve projects.

Forest Paddock No. 1, Wallaby Creek, R. 283.—Ringbarking 490 acres cost 5s. 3d. per acre (average). Eighty chains of "tree to tree" fence cost 9s. 4d. per chain.

Dam No. 1.—One hundred thousand gallons capacity, or 596 cubic yards, cost 1s. 3d. per cubic yard.

Dam No. 2.—Thirty thousand gallons capacity, or 240 cubic yards, cost 3s. 4d. per cubic yard.

Dam No. 3.—Twenty-two thousand gallons capacity, or 130 cubic yards, cost 3s. per cubic yard. This paddock is let at £37 10s. per year, or slightly over 11 per cent. on the capital cost.

Forest Paddock No. 2, R. 379, Cooyar.—Seventy-seven chains of fencing cost 14s. 1d. per chain, and 400 acres of ringbarking cost 3s. 6d. per acre, and a dam of 120,000 gallons, or 710 cubic yards, was constructed at a cost of 2s. 3d. per cubic yard.

The following paddocks had some expenditure incurred during the year, but owing to weather conditions and the work being seasonal, such as ringbarking, the project was not completed as at 31st December, 1922.

Forest Paddock No. 1, Muddy Creek, R. 283.—A dam of 180,000 gallons, 1,071 cubic yards, was constructed at a cost of 1s. per cubic yard net, 108 acres of old ringbarking which had grown over was re-ringbarked at a cost of 1s. 1½d. per acre net.

Forest Paddock, Opossum Creek, R. 283.—A dam of 226 cubic yards capacity, or 38,000 gallons, was constructed—cost 2s. 1½d. per cubic yard net. Owing to the water supply failing the men had to shift before the dam was completed, and the inaccessible nature of the country and the absence of a forest road made shifting in and out a costly job.

Forest Paddock, Back Gully, R. 283.—Two hundred and twenty acres of ringbarking cost 6s. 9d. per acre. The country was rough and broken, which added to the cost.

Extending Forest Station Paddock, R. 283, Taromeo.—Fifty-six and a-half acres of mixed scrub and hardwood were felled at a cost of £2 3s. 7d. per acre on the extension part of the paddock. Ten acres of thick brush and undergrowth on the present paddock were brushed for a cost of £1 5s. 5d. per acre.

Water Supply, Taromeo.—For above paddock 22 ft. of old well was battened and repaired at a cost of 2s. 5½d. per foot.

There is a tank stand and windmill tower on the well, and a windmill and pump with tank will be installed this year.

Forest Paddock 59v, Taromeo.—Existing well deepened from 20 ft. to 49 ft. and slabbed—cost per foot, 23s. 5d. This well now makes about 200 gallons per day. A large log trough was also installed.

Nineteen acres of thick Blue Gum flat were cleared and poisoned, costing 11s. 4d. per acre.

Fifteen acres of Dogwood and Wattle were brushed at a cost of 3s. 7d. per acre net.

Forest Paddock, R. 52, Emu Creek.—One hundred and thirty-one chains of fencing completed at a cost of 21s. 4d. per chain.

FRASER ISLAND.

Forest organisation works on Fraser Island during the year were as follows:—

Roads.—During the year 18½ chains of Section 4 of Ungowa road were formed, which completed this section. Sixty-one chains of forming and side cutting were done on Section 2.

This road is unfinished and shows 2 miles 40 chains completed, and a further 1 mile 47 chains cleared only.

Road.	Work Completed During Half-year.	Cost.
		£ s. d.
Ungowa Road—		
Section 1	13 chains cleared and grubbed, 94 chains graded	9 15 0
Section 2	61 chains formed and levelled, 8 chains cleared and grubbed	86 12 11
Section 3	Clearing logs, cutting, and filling	3 2 4
Section 4	18½ chains cutting and filling	123 13 5
		£223 3 8

Housing.—No new buildings were erected during the period, but the blacksmith's shop was removed to a site near the tool room at a cost of £6 14s. 4d.

Following are the particulars of amount spent in upkeep:—

Building.	Work Done.	Cost.
		£ s. d.
Seed room	Fitting shelves	0 6 0
Bunkhouse "C"	Disinfecting	0 10 3
Bunkhouse "B"	Repairing roof damaged by cyclone	0 8 7
Bunkhouse "D"	Re-erecting building damaged by cyclone	1 2 1
Pumphouse	Re-erecting building damaged by cyclone	2 15 4
Office	Press made for Herbarium specimens	1 11 0
Office, tool room, and quarters	Putting white ant cure on stumps	0 3 10
		£6 17 1

Forest Paddocks.—No new paddocks were created during the report period, but £43 11s. 2d. was spent in general maintenance, fencing, and clearing of 72 acres. Twenty-one pounds eighteen shillings and eleven pence was spent on clearing, purchasing seed, and sowing same.

FOREST SURVEY AND ENGINEERING.

CLASS I.—INSPECTIONS OF VACANT CROWN LANDS.

	Acres.	
R. 309	Samford, Enoggera	3,608
R. 1017	Kholo, Sahl	8,150
Vacant lands	Sahl, Burnett, Dundas	11,100
Designed portions	Samsonvale	18,407
Grazing farms	Yabba	15,000
R. 212	Hazeldean, Abingdon	10,500
R. 84	Ossa	800
R. 85	Ossa	1,800
R. 98	Pelion	3,000
R. 95	Pelion and Mia Mia	40,000
R. 394	Lacy	53,000
R. 113	Whitsunday Island	40,000
R. 72	Conway	50,000
R. 51	Dryander	8,000
R. 6	Eungella	50,000
Vacant lands	Hook Island	25,000
Vacant lands	Callaroy holding	106,000
R. 138, R. 86	Monkhouse, Clerk	4,800
R. 87	Clerk	1,180
		450,345

CLASS 2—FLYING ASSESSMENT SURVEYS OF VACANT CROWN LANDS, PROCLAIMED TIMBER RESERVES, AND STATE FORESTS.

	Acres.	
R. 368	Maroochy	1,040
R. 1017	Sahl, Kholo, Samford	5,847
R. 309	Samford, Enoggera	3,608
Vacant Crown Land	Sahl, Dundas, Burnett	8,328
Designed portions	Samsonvale	2,170
R. 122	Wietalaba	5,050
R. 121	Degalgil	7,600
R. 225	Degalgil	502
R. 202, R. 115, R. 99	Milton, Pemberton, Polmally	12,115
R. 53	Barmundoo, Diglum, Booroom	14,000
R. 196-7	Wietalaba	3,350
R. 183	Dawes	2,200
R. 115	O'Connell	3,400
R. 75	Polmally, Rodd's Bay	240,000
R. 3	Fraser Island	13,360
R. 135	Brooloo (Derrier, Borumba, and Yabba)	1,950
Grazing farms	Yabba	11,631
Surveyed portions	Charlestown	5,050
R. 6	Eungella	15,800
R. 42, R. 32	Mowbray, Garioch	28,000
R. 315	Dulanban, Mowbray	9,000
R. 30	Garioch	8,000
War Service Homes Properties	Cooyar, Emu Creek, Parker	5,344
	Emu Vale, Killarney	
		407,345

CLASS 3—VALUATION AND ORGANISATION SURVEYS OF STATE FORESTS.

	Acres.	
R. 1173	Parker	2,200
R. 67	Bulburin, Thornhill	12,163
R. 399	Emu Vale	10,636
R. 393	Woondum	10,860
R. 283	Colinton, Taromeo	15,307
R. 135	Brooloo (compartments)	14,781
R. 191	East Barron	1,570
		67,517

BRISBANE DISTRICT.

At the commencement of the year, Survey Camp completed a Class II. survey of R. 368, parish of Maroochy.

Details are as follows:—

	Miles.	chains.
Theodolite and chain	1	54
Compass and chain	9	52
Compass and step	2	30
Strip survey	5	11
Exploratory investigation	6	0

This camp was then transferred to the Gladstone District.

Early in April, the Survey Camp at Benarkin was removed to R. 1173, parish of Parker, in the Brisbane District, where a theodolite surround was made, road surveyed along the South Pine River, and level and cross sections taken. In conjunction, an estimate was made of the War Service Properties in the parish of Parker.

Class 1 inspections, followed by Class 2 (estimates) of selected areas were then carried out on the following reserves :—

R. 1017, Kholo and Sahl.

R. 309, Samford and Enoggera.

Vacant lands in Dundas, Sahl, and Burnett.

Survey work was still proceeding on the latter at the close of the year.

Particulars of mileage are given hereunder :—

	Miles.	Chains.
<i>R. 1173, Parker—</i>		
Theodolite and chain	15	23
Levels and cross sections	4	37
<i>War Service Properties, Parker—</i>		
Strip survey	22	59
<i>R. 1017, Kholo and Sahl—</i>		
Compass and chain	3	46
Compass and step	3	10
Strip survey	36	71
<i>R. 309, Samford and Enoggera—</i>		
Compass and chain	4	55
Compass and step	3	61
Strip survey	21	45
<i>Vacant Land, Dundas, Sahl, and Burnett—</i>		
Compass and chain	0	74
Compass and step	7	53
Strip survey	51	56
Exploratory investigation	14	0
<i>Designed Portions 233-235, Samsonvale—</i>		
Exploratory investigation	21	0

BENARKIN DISTRICT.

The Class 3 survey of Reserve 283, parishes of Colinton and Taromeo (Northern section), together with Reserves 472, 485, 480, and 319 was completed early in April, when the camp was transferred to the Brisbane District.

Apart from the survey work on R. 283, an estimate was made of the War Service Properties in the parishes of Emu Creek and Cooyar, and portions 20v, 29v, 32v, and 36v, parish of Charlestown, area 11,631 acres.

Details of the work performed are as follows :—

	Miles.	Chains.
<i>R. 283, Colinton and Taromeo—</i>		
Theodolite and chain	7	67
Compass and chain	3	50
Elevations with dumpy	2	60
Strip survey	60	9
Exploratory investigation	41	0
<i>R. 472, Taromeo—</i>		
Elevations with dumpy	6	6
Strip survey	18	7
<i>R. 485, Taromeo—</i>		
Elevations with dumpy	2	29
Compass and chain	1	40
Strip survey	7	56
<i>War Service Homes, Emu Creek and Cooyar—</i>		
Strip survey	12	39
Exploratory investigation	4	0

The Benarkin District was without the services of a Survey Camp until November, when a start was made by Forest Foreman Tardent and one hand on marking out compartments on R. 283 (Southern Section), Benarkin Logging Area.

Compass surveys were also made of the Benarkin Forest Station, which was connected to the railway, and the nursery, cottages, office, and other buildings, horse paddocks and main fence correctly located.

Compass survey of Forest Paddock on R. 52 has been made, also of the Horse Paddock and Forest Station Site on R. 257, Cooyar and Emu Creek.

During the two months, 20 miles 53 chains of compass surveyed compartment lines were run and marked, mostly in rough broken scrub.

GYMPIE DISTRICT.

At the close of 1922, two camps were in full operation in this district, and a third camp in process of formation to undertake a survey (Classes 1 and 2) of the country known as Tin Can Bay.

FOREST SURVEY CAMP No. 3.

The Class 3 survey of R. 393, parish of Woondum, was completed by Forest Survey Camp No. 3 by 22nd July. From that date to 14th August the camp was carrying out a Class 2 survey of the Derrier, Little Derrier, East and West Derrier, Borumba and Yabba Logging Areas in Brooloo State Forest (R. 135). About 9 miles of secondary control were cleared, when the project was postponed for more urgent undertakings. A scrub estimate and location was carried out on the Yabba Grazing Farms from October until November, during which period 1,950 acres of scrub were surveyed and the timber thereon estimated, totalling 11½ millions.

There were also 15,000 acres of country inspected, on portion of which the scrubs were located and the timber roughly estimated.

Since 15th November, portion of the camp has been engaged on a timber estimate of Casey's Gully and Derrier Logging Areas, and the remaining members of the camp have been carrying out a tramway survey from Imbil towards the head of Derrier Creek for the economic logging of Derrier, Little Derrier, and adjacent areas, and later to be utilised in dealing with timber on grazing farms and timber reserves up Yabba Creek and in the vicinity of Jimna.

	Miles.	Chains.
Details of various work are as follows :—		
Compass and Chain	78	32
Compass and step	5	65
Tertiary control (contours, features, and estimate) ..	99	59
Tertiary control (features and estimate)	48	20
Roads surveyed	2	60
Roads inspected	3	0
Exploratory investigation	104	0
Levelling	2	0
<i>Tramway Survey.</i> —Location, pegging, levelling, check levelling, and contours—		
Final location	0	70
Preliminary	8	0
Inspection beyond survey	6	0

A survey of a possible route to the Grongah Reserves was carried out at a cost of £158 12s., the distance being about 25 miles. Cost of construction is estimated at from £6,000 to £8,000, or £320 per mile, though the last ten miles or so will absorb the greater part of the total expenditure. Approximately, 32,000,000 superficial feet of pine will be tapped by this road.

The Survey Camp transferred from Many Peaks (Gladstone District) commenced operations on Fraser Island on 5th June. This camp has been engaged on an assessment survey of all timber bearing country on Fraser Island. Details of mileage are as follows :—

	Miles.	Chains.
Theodolite and chain	16	4
Compass and chain	63	19
Strip survey	131	61
Exploratory investigation	206	0

Compartment surveys on R. 135 (Brooloo State Forest) were carried out during the year, and include boundary surveys of compartments in the following Logging Areas :—Breakneck, Derrier, Little Derrier, East and West Derrier, Araucaria, Coonoon Gibber, Ryan Creek (R. 256). A total area of approximately 14,781 acres at an average cost of 3½d. per acre was completed. Several sub-compartment surveys on Western Creek and Casey's Gully were also carried out. Total compass and chain, 101 miles 23 chains.

DALBY DISTRICT.

No survey work has been carried out in the Dalby District for year 1921-1922.

WARWICK DISTRICT.

During the first quarter of the period, an estimate of the War Service Properties in the district was carried out. Balance of the year was devoted to completion of Class 3 survey of R. 399, Emu Vale, a total area of 10,636 acres being dealt with.

Total mileage is set out hereunder :—

	Miles.	Chains.
<i>Class 3 (R. 399)</i> —		
Theodolite and chain	2	51
Levelling	4	0
Strip survey	82	68
<i>Class 2 (War Service Properties)</i> —		
Strip survey	49	1
	138	40

The following information is of interest, inasmuch as it shows the vertical range in the respective valleys dealt with. The heights are the lowest and highest in each valley named hereunder :—

	Lowest. Feet.	Highest. Feet.
Barney's Creek	2,237	4,147
Reedy Creek	2,319	4,214
Pinch Gut Creek	2,333	3,351
Steamer Creek	2,138	3,955
Emu Creek	2,124	4,493
Farm Creek	3,221	3,931
North Condamine River	2,482	4,473

In view of above, owing to rugged conformation and valleys hard of access, work has not been carried out as expeditiously as it would have been on more level country.

BUNDABERG DISTRICT.

No Forest Service Camp has been operating in this district during the past year.

Small strip surveys were run on areas adjoining State Forest R. 169, St. Agnes, in connection with proposed resumptions.

GLADSTONE DISTRICT.

Survey Camp commenced operations in this district early in March, and details of mileage are given below of the areas dealt with during the year.

	Miles.	Chains.
<i>R. 122, Wietalaba—</i>		
Theodolite and chain	5	7
Compass and chain	8	20
Strip survey	10	26
Exploratory investigation	6	0
<i>R. 121, Degalgil—</i>		
Theodolite and chain	2	29
Circumferentor	1	63
Compass and chain	21	33
Compass and step	5	10
Strip survey	9	60
Exploratory investigation	36	0
<i>Pot Hole Spur Road (R. 67, Thornhill)—</i>		
Circumferentor	2	14
<i>R. 202, 115, and 99, Pemberton, Polmaily, and Milton—</i>		
Old boundary lines cleared	1	10
Compass and chain	25	62
Compass and step	5	45
Strip survey	13	60
Exploratory investigation	34	0
<i>R. 196, 197, Wietalaba—</i>		
Old boundaries cleared	6	20
Strip survey	8	38
Exploratory investigation	15	0
<i>R. 183, Dawes—</i>		
Old boundary cleared	1	20
Strip survey	5	60
Exploratory investigation	10	0
<i>R. 225, Degalgil—</i>		
Strip survey	3	0
Exploratory investigation	5	0
<i>R. 53, Booroom, Diglum, and Barmundoo—</i>		
Compass and chain	12	20
Strip survey	16	25
Exploratory investigation	39	0
<i>R. 75 and 115, Polmaily, O'Connell, and Rodd's Bay—</i>		
Old boundaries cleared	3	20
Compass and chain	6	20
Compass and step	2	50
Exploratory investigation	10	0

The camp was engaged on the lastmentioned reserves at the close of the year.

Class 3 survey of R. 67, parishes of Bulburin and Thornhill, was finalised towards the end of May, when this camp was transferred to Fraser Island.

Particulars of mileage are given below :—

	Miles.	Chains.
Theodolite and chain	11	69
Compass and chain	5	40
Strip survey	44	9
Exploratory investigation	120	0

ROCKHAMPTON, EMERALD, CLERMONT, AND SPRINGSURE DISTRICTS.

Inspections in above districts were carried out from February to April, with a view to locating dependable stands of Cypress Pine in the Central District. Estimated mileage travelled in pursuance of these inspections totals about 830 per riding and pack horse.

The months of June and September were chiefly devoted to the location of reported stands of hardwood in the Springsure and Banana Districts. The inadequate pasturage facilities towards the end of September forced a cessation of these inspections, and their continuance has remained in abeyance to the end of the year, consequent on prevailing drought conditions. Estimated mileage for hardwood location in these districts totals 550.

The general results of these exploratory surveys have been satisfactory, inasmuch as they have made known the trend and compass of the Cypress belts as occurring north and south of the Central Railway; and, in addition, have brought under notice some useful virgin stands of hardwoods at present beyond haulage distance of the existing railway systems.

In connection with inspections in these districts, the following list shows the parishes that have received attention:—

Blanchory, Quetta, Redrock, Tiptree, Forrester, Kingston, Malden, Sandown, Alpha, Sedgford, Merrijig, Rainmore, Virgil, Juanita, Braystone, Kelpum, Carwell, Slyboy, Rosa, Goodliffe, Beauchamp, Squire, Sterculia, Cona, Norwood, Rainworth, Sirius, Inderi, Aldebaran, Meteor Downs, Rolleston, Boolbung, Somerby Topran Balamoo, Stewarton, Blackwater, Alberta, Perch, Roundstone, Quakit, Mayne, Highworth, Woolthorpe, Kianga, Woolein, Lake Learmonth, Princhester, Marlborough, Ewen, Tilpal, Belcong, Tieri, Cuddesden.

Mileage covered during these inspections totals approximately 1,500.

MACKAY DISTRICT.

Towards the end of June, a new camp was formed for the purpose of carrying out survey operations on the timber areas in the Mackay District. This camp has been engaged from 1st July on a Class 2 survey of R. 6, parish of Eungella, and the following has been completed by 31st December:—

	Miles.	Chains.
Compass and chain	30	0
Strip survey	30	3
Exploratory investigation	130	0

Area completed (comprising five Logging Areas) totals 5,050 acres. The country operated upon has ranged in altitude from 1,300 ft. to 3,200 ft. above sea level, much of it being rough and broken, and, with the exception of about 700 acres, entirely clothed in jungle.

Inspections and rough estimates were also made by the District Officer of the following reserves:—

	Acres.
R. 212, Hazeldean and Abingdon	10,500
R. 84, Ossa	800
R. 98, Pelion	3,000
R. 85, Ossa	1,800
R. 95, Mia Mia and Pelion	40,000
R. 394, Lacy, Bloomsbury, and Macartney	53,000
R. 113, Whitsunday Island	40,000
R. 72, Conway	50,000
R. 51 Dryander	8,000
R. 6 Eungella	50,000
Vacant Crown Lands, Hook Island	25,000
Callaroy Holding	106,000

ATHERTON DISTRICT.

Survey Camp No. 1 was employed on feature and assessment surveys in the parishes of Mowbray and Garioch during the first half of the year, and the following work was completed:—

	Miles.
Compass and chain	36
Compass and step	4
Inspections	12

In August, Survey Camps Nos. 1 and 2 were combined from motives of economy and efficiency. This combination allowed of the employment of one cook in place of two, and the Deputy Forester was placed in charge of both camps.

Prior to August, Survey Camp No. 2 was closed down until 22nd March, owing to an accident to the officer in charge. From that date the camp was employed on compartment surveys on R. 191, parish of East Barron.

Combined survey camps then resumed operations on the proposed Black Mountain State Forest (R. 315, Dulanban; R. 31, Garioch; and R. 42, Mowbray). The surround of the western end was completed in December.

The work done by the camp is as follows:—

	Miles.	Chains.
Compass and chain	70	3
Exploratory investigation	62	0
Inspections with Director	60	0

Reconnaissance work in the Cooktown District was abandoned on 14th November, it being found that one man was inadequate to effectively explore a practically unknown country.

About 3,000 miles were travelled by the Forest Foreman on these inspections.

SCHEDULE OF COSTS OF SURVEY CAMPS, 1922.

Costs of Survey Camps are given hereunder:—

	£	s.	d.
Survey Camp No. 1, Atherton	1,319	3	7
Survey Camp No. 2, Atherton	332	18	11
Survey Camp, Markwell	1,287	7	8
Survey Camp, Warwick	1,084	11	2
Survey Camp, Allom	1,732	0	1
Survey Camp No. 3, Gympie	1,456	1	9
Survey Camp, Mackay	1,117	2	0
Survey Camp, Brisbane (L. S. Twine)	1,259	13	10
	£9,588	19	0

TIMBER TRADING OPERATIONS.

THE RAW TIMBER MARKET.

The year under review was a period of recovery from the serious slump of 1920-21. The log market showed a decided hardening tendency and the demand for logs was good. Forest Service sales of Crown timber amounted to 55,150,000 s. ft., which represents an increase of 9,250,000 s. ft. over the figures for 1920-21, and is also considerably in excess of the sales during 1918 and 1919-20.

Apart from the log market the demand for railway timbers, which had been practically non-existent during the financial year 1920-21, reawakened to some extent in the latter half of this report period, and increased figures were shown in respect of supplies of round timbers and also of the larger hewn pieces, whilst nearly 190,000 hewn sleepers also were supplied.

Mining timbers show a reduced demand due to the reduction of mining operations consequent on the depression in the metals market, and only 56,000 lin. ft. were sold as against 484,000 lin. ft. during 1920-21.

Sales of fuel were greater than usual.

In other classes sales were up to the average.

The schedule hereunder gives details of sales since the financial year ended 30th June, 1920:—

FOREST SERVICE TIMBER CUT—MILL LOGS.

	1919-20.	1920-21.	June to Dec., 1921.	1922.
	Super. feet.	Super. feet.	Super. feet.	Super. feet.
Hoop and Bunya (logs and tops)	43,113,383	33,887,627	13,567,263	41,768,829
Kauri	339,111	1,333,175	1,553,530	1,927,232
Cypress Pine	846,229	1,578,396	1,117,841	2,542,021
Other Softwoods	931,164	1,501,576	710,088	2,197,197*
Hardwoods	4,939,610	7,600,189	3,245,462	6,553,831
				166,964†
Grand Total	50,169,497	45,900,963	20,194,184	55,156,074

* Cabinet woods.

† Soft woods.

RAILWAY, MINING, AND MISCELLANEOUS.

	1919-20.	1920-21.	June to Dec., 1921.	1922.
Sleepers (pieces)	181,316	469,379	35,000	188,859
Posts, rails, and palings (pieces)	97,285	90,615	33,562	120,084
Piles, girders, corbels, and sills (lin. ft.)	434,559	95,982	10,868½	116,292
Headstocks, transoms, and crossings (sup. ft.) .. .. .	..	944,814	78,022	198,937
Telegraph poles and house blocks (lin. ft.)	126,116	215,864	55,209	191,430
Mining and Miscellaneous (lin. ft.)	692,727	484,242	18,478	56,386
Miscellaneous—				
Sup. ft. .. .. .	..	102,119	2,434	31,719
Lin. ft. .. .. .	..	..	..	35,830
Fuel (tons)	49,333	64,532	33,790½	80,078
Sandalwood (tons)	546	388	247	224
Mangrove (tons)	18	54	..	48
Guano (tons)	139	..	..	917
Foam Bark (cwt.) .. .. .	..	13	..	..
Ebonywood (tons) .. .. .	..	3¼ tons	20 lb.	1.35 tons
Sand and gravel (loads) .. .. .	..	37	..	20
Charcoal (bags) .. .. .	..	1,222	6,845	1,243
Lawyer Cane (tons) .. .. .	..	..	..	5.9

Despite the greatly increased demand, log prices did not vary greatly throughout the year.

The following are Forest Service Price Lists for the various species, showing price fluctuations:—

PRICE FLUCTUATIONS—LOG TIMBER.

Species.	Log Class.	Price at.	Particulars.
Red Cedar	6 ft. to 7 ft. 11 in. ..	F.o.b. Cairns ..	January, 47s. 6d. ; September, 42s. to 50s. ; November, 35s. to 37s. 6d.
Maple	8 ft. to 9 ft. 11 in. ..	F.o.b. Cairns ..	January, 34s. ; June, 36s. ; September, 35s. ; November, 34s.
Kauri	6 ft. plus	F.o.b. Cairns ..	January, 30s. ; September, 27s. to 29s. ; November, 26s. to 28s.
White Beech	6 ft. plus	F.o.b. Brisbane ..	January, 30s.
Bolly Beech	5 ft. plus	F.o.b. Brisbane ..	January, 23s.
Silver Beech	5 ft. plus	F.o.b. Brisbane ..	January, 23s.
Rose Mahogany	6 ft. plus	F.o.b. Brisbane ..	January, 22s. 6d.
Yellowwood	6 ft. plus	F.o.b. Brisbane ..	January, 25s. 6d. ; June, 26s. 6d.
Crow's Ash	6 ft. plus	F.o.b. Brisbane ..	January, 24s. 6d. ; June, 25s. 6d.
Silver Ash	5 ft. plus	F.o.b. Brisbane ..	January, 19s.
Pink Poplar	5 ft. plus	F.o.b. Brisbane ..	January, 17s.
Brown Oak	5 ft. plus	F.o.b. Brisbane ..	January, 15s. 6d. ; June, 14s. 6d.
Marara	5 ft. plus	F.o.b. Brisbane ..	January, 15s. 6d. ; June, 14s. 6d.
Brush Box	6 ft. plus	F.o.b. Brisbane ..	January, 15s. 6d. ; June, 15s.
Water Gum	5 ft. plus	F.o.b. Brisbane ..	January, 15s.
Southern Maple	6 ft. plus	F.o.b. Brisbane ..	January, 22s. 6d.
Hoop Pine	Special	F.o.b. Brisbane ..	January, 28s. 6d.
Hoop Pine	A 5 ft. plus	F.o.b. Brisbane ..	January, 26s. ; June, 25s.
Hoop Pine	5 ft. plus	On trucks, Brisbane	January, 22s. ; June, 21s. 6d.
Hardwoods	All sizes	Central Line ..	January, 13s. ; August, 14s.
Silky Oak	7 ft. plus	F.o.b. Cairns ..	September, 25s. ; November, 24s.
Brown Oak	6 ft. plus	F.o.b. Cairns ..	September, 27s.
Walnut	8 ft. plus	F.o.b. Cairns ..	September, 20s. ; November, 26s.
Satin Walnut	6 ft. plus	F.o.b. Cairns ..	September, 27s. ; November, 26s.
Water Maple	5 ft. plus	F.o.b. Cairns ..	September, 27s.
Water Gum	8 ft. plus	F.o.b. Cairns ..	September, 20s.
Bolly Beech	6 ft. plus	F.o.b. Cairns ..	September, 21s. ; November, 20s.
White Beech .. ..	.. .. .	F.o.b. Cairns ..	October, 26s.
Silver Beech .. ..	.. .. .	F.o.b. Cairns ..	October, 26s.

The Price List for Hardwoods was as under:—

PRICE ON TRUCKS, BRISBANE—LOGS 72 IN. PLUS.

Species.	Jan., 1922.		July, 1922.		Species.	Jan., 1922.		July, 1922.	
	s.	d.	s.	d.		s.	d.	s.	d.
Yellowwood	17	6	18	6	Grey Gum	13	3	12	6
Crow's Ash	17	6	18	6	Marara	13	3	12	6
Rose Mahogany .. ..	..	..	18	6	Brown Oak	13	3	12	6
Southern Maple .. ..	..	..	18	6	Turpentine	12	6	12	0
Ironbark	15	6	15	6	White Stringybark	12	6	12	0
Silver Ash	15	6	15	6	Yellow Stringybark	12	6	12	0
Bumpy Ash .. ..	..	..	15	6	Scrub Box	12	6	12	0
Tallowwood	14	6	14	6	Gumtop Box	12	6	12	0
Spotted Gum	14	6	14	6	Bloodwood	12	6	12	0
Red Stringybark	14	6	14	6	Rose Apple	12	3	11	9
Blue Gum	14	6	14	6	Ironwood Box	12	3	11	9
Flooded Gum	13	3	12	6	Lignumvitæ Box	12	3	11	9
Blackbutt	13	3	12	6	Water Gum	12	3	11	9

DISTRICT NOTES ON LOG MARKET.

Gympie District.

Pine.—Good demand for large logs fairly free from knots. Good inquiry for ply quality logs, but prices not sufficiently attractive to cover extra difficulty in selection. Considerable demand for "tops" at the end of the year. Knotty logs not in great demand.

Hardwoods.—Demand poor during first half of year, but improving and very promising at end of year.

Cabinet Woods.—Sales of occasional logs of Red Cedar—now too scarce for extensive marketing. Bumpy Ash and Beech easily saleable but supplies scarce. Good demand for Yellowwood and Crow's Ash—these also scarce.

General.—Sales at stump during the year were reduced to a minimum, and confined practically to areas where the margin under haulage contract did not warrant the tying up of requisite funds. Teamsters, as a whole, throughout the district appear to be contented with their lot and the discontented teamster of the "Sales at Stump" period has become a thing of the past.

Atherton.

At the beginning of the year, all Cairns timber sales business was taken over from the Land Commissioner and handled by the Atherton Office. This resulted in greater effectiveness, and brought the teamsters and buyers more closely in touch with the District Officer to mutual advantage.

Direct Sales.—In spite of the many difficulties, enumerated too often to be repeated, the Direct Sales Branch of our activities is now satisfactorily established. Our principal difficulty during the latter half of the year was the inadequate truck supply. All people raiiling log timber were unable to get trucks quickly enough to get timber away from ramps. Taking advantage of the prolonged dry weather, large supplies were rushed to the ramps in anticipation of the wet season. The wet season did not eventuate, but thundery showers followed by intense heat, which caused quite a lot of trouble, both with Kauri and Maple, to all concerned in their marketing.

Relations with those engaged in all branches of the timber industry have on the whole been cordial. A satisfactory feature is the fact that the cordiality is greatest where our operations are the most concentrated. The policy has been to eliminate sales at stump as much as possible where we have been marketing direct. This has obviated the contest for trucks.

The responsibility for efficiency in direct sales in all stages has of necessity devolved on the District Office. This, though it has added to the work of the office staff, has also repaid in the amount of valuable business experience gained.

The exporter of log timber at present is under a considerable disadvantage on account of allowances claimed by the Southern buyer. He has no remedy but to make the allowances, otherwise the buyers form a ring and boycott his timber. This is a long-standing abuse which can only be remedied by concerted action on the part of the log exporters, supported by Government inspection and a proper system of grading for export. The matter of grading will receive attention during 1923, after which the log exporters will probably ask for Government inspection as a matter of protection.

Gladstone District.

Up to about May, practically the whole of the timber sales made in the District were "at stump," and in nearly every instance; owing to shortage of supervising officers, railway and sawmill measurements were accepted.

Under instructions from Head Office a system of direct sales was inaugurated, and as the then current, "sales at stump," timber cases expired, haulage contracts were substituted.

Teams were gradually absorbed and an outlet for the logs hauled, pending successful negotiations with the local sawmills, was secured through Head Office for export, and by the end of the year only in isolated cases were sales at stump permitted.

Haulage Contracts.—In all thirty-five teams were engaged at the end of the year on haulage contracts. Teamsters for the most part appeared satisfied so far as rates and general conditions are concerned. The difficulties appear to have now been overcome however. Award rate has, in every instance, been used as a basis for calculation.

Grass-fed horses predominate in the district; only two or three bullock teams are operating. Mechanical transport has in no case been adopted. Haulage distances vary from nine to twenty-five miles, and rates for cutting, hauling, and loading from 9s. to 13s.

Roads in almost every instance require continuous maintenance. Settlement being scattered, the local Shire Councils cannot be persuaded into this, and as a consequence teamsters are compelled to keep roads in trafficable condition themselves. They are in many cases subsidised by this Service for so doing.

Markets.—Hardwood log market is limited. Only local and Rockhampton mills can afford to purchase this, rail freight being too heavy for Bundaberg sawmills, and, as a consequence, operations are on a comparatively limited scale.

Ruling log prices are in the vicinity of 12s., 10s., and 8s., delivered Gladstone, mill measurements. Very generous deductions are always made by the local sawmillers for any defects when purchasing privately-owned hardwood. On Crown logs, Crown measurements are accepted.

Pin log market extends from Maryborough to Rockhampton. So far as Maryborough is concerned, rail freight debars our successful competition there, and it is only on account of the scarcity of supplies from Bundaberg, Gayndah, and Gympie districts that we are able to dispose of logs in that direction.

The fact of Bundaberg District log supplies being limited gives us a fair scope there, though purchasers in that city are comparatively few.

Gladstone and vicinity has eight sawmills operating on pine and hardwood, and it is on these we largely rely for sales.

In consequence of the adoption of the direct sales system in the district, pine log prices have advanced from 18s. (subject to inspection) in February to 20s. (Forest Service classification and measurement) in December. Difficulty is experienced in disposing of "C" class logs; haulage costs, &c., make the price prohibitive. To date, however, probably 35 per cent. of the tops cut have been disposed of at a profit of 3d. per 100 s. ft.

There has been very little demand for scrubwoods other than Pine. A small quantity of Burdekin Plum and Crow's Ash was sold at stump.

Brisbane District.

Owing to the overcutting of the more easily accessible State Forests and Timber Reserves in past years, there was only a limited quantity of logs available for market. The demand was strong, hence local mills were compelled to look to other districts for supplies. The "Direct Sales" system worked satisfactorily during the year, and no difficulty was experienced in disposing of all logs available at above Forest Service upset prices.

When the demand for railway timbers revived, some difficulty was experienced in getting the squarers organised, but by the end of the year supplies were coming in satisfactorily.

Benarkin District.

The most notable event in the timber trade was the finishing up of the ten-year-old contract to the Queensland Pine Company (now the Pines and Hardwoods of Australia Limited), Yarraman, in September, the final cut being 1,522,718, exclusive of tops, for the price at stump of 5s. 8d. per 100 for log timber and 3d. per 100 for tops.

At the request of this company a small sale of 400,000 s. ft. was made by auction on 28th September, 1922. The prices at stump were as follows:—60 in. plus 14s. 4d.; 48 in. to 59 in., 11s. 4d.; 38 in. to 47 in., 6s. 10d.; tops, 3s. 10d. and 2s. 10d.

These prices give some idea of the loss of revenue incurred by this concession, as this sale was made on R. 289 on the edge of the Pine Company's old workings.

Another auction sale was held at Yarraman on 14th December, 1922, 2,000,000 s. ft. being put up in seven blocks on State Forests R. 120 and R. 289. Block 8, on R. 289, realised 14s. 2d., 11s. 2d., 6s. 8d., 3s. 6d., 2s. 6d. Block 9, 14s., 11s., 6s. 6d., 3s. 6d., 2s. 6d. for the respective log classes and tops. Block 9 was the only block out of the seven for which there was no competition. For all the others there was spirited competition, one block on S.F.R. 120 realising 2s. above the upsets.

A further lot of 2,200,000 s. ft. also was offered for sale on rail by tender. The most striking feature of this sale was the demand for ply timber, as tenders were received for no less than 900,000 s. ft. ply logs. Tenders for 200,000 s. ft. ply were accepted at prices above the Forest Service price list. The prices for log and tops were also above Forest Service list prices.

Dalby District.

The demand for Cypress Pine and hardwood from Forest Service controlled areas was good. The privately controlled areas near railway lines are gradually being depleted of marketable timber, and, as a consequence, timber teamsters are compelled to go out to the State Forests and Timber Reserves. The selectors out from rail placed no value on their timber and in nearly every case ringbarked it. Before very long the Forest Service will be practically the only log seller in this district.

A fair quantity of splendid Spotted Gum girders were procured from Nudley State Forest, and at Cecil Plains a large quantity of best quality railway timbers were supplied.

Inglewood District.

Owing to the nature of the timber stand this is essentially a railway timber supply district. Operations along this line were brisk during the year, although they were hampered somewhat towards the end of the year by droughty weather conditions.

FOREST SERVICE SAWMILLS.

After allowing for interest, £3,666, and depreciation, £3,388, and providing for incidental losses, the results for the Forest Service Sawmills for the year ended 30th June, 1922, showed a net profit of £4,882. These figures are very satisfactory in view of the trade depression ruling during the period, and bear more than favourable comparison with figures for previous years, the high figure attained in 1919-20 being contributed to by rebates from the Forest Service which were terminated when the mills came under Forest Service control.

The balance-sheet and trading and profit and loss accounts for the period are appended.

FOREST SERVICE SAWMILLS.

TRADING ACCOUNT, 1ST JULY, 1921, TO 30TH JUNE, 1922.

	£	s.	d.		£	s.	d.
To Stock on hand, 1st July, 1921 ..	24,340	10	2	By Sales	108,656	2	8
„ Purchases	65,287	8	3	„ Stock on hand, 30th June, 1922 ..	30,549	1	10
„ Mill wages	22,167	16	5				
„ Cartage—Sawn timber	2,310	19	6				
„ Gross profit (to Profit and Loss Account)	25,098	10	2				
	£139,205	4	6		£139,205	4	6

PROFIT AND LOSS ACCOUNT, 1ST JULY, 1921, TO 30TH JUNE, 1922.

	£	s.	d.		£	s.	d.
To Audit fees	80	0	0	By Gross profit	25,098	10	2
„ Cartage	449	13	5	„ Discount	246	10	6
„ Discount	2,459	7	3	„ Interest	33	16	6
„ Fire insurance	840	8	3	„ Rent	395	5	10
„ Holidays	965	2	7				
„ Office expenses	317	12	5				
„ Repairs and maintenance	1,688	6	7				
„ Rent of ground—Injune	12	0	0				
„ Salaries	2,340	16	5				
„ Sick pay	59	12	8				
„ Trade expenses	1,367	15	3				
„ Travelling expenses	499	10	0				
„ Workers' compensation	502	16	0				
„ Depreciation	3,387	16	2				
„ Interest to Treasury	3,665	18	7				
„ Birimgan Wells (written off)	73	10	6				
„ Reserve for Bad Debts— Building Trade Guild	1,189	8	8				
„ Sundry accounts	592	9	2				
	1,781	17	10				
„ Reserve for discount	400	0	0				
„ Net profit	4,881	19	1				
	£25,774	3	0		£25,774	3	0

ADMINISTRATIVE OPERATIONS.

FINANCIAL.

Figures of the Forest Service Revenue and Expenditure from 1904 to 1922 are shown in the following schedule:—

FINANCIAL STATEMENT, 1904-1922.

Year.	Gross Revenue.	Payments to Cutters and Haulers of Forest Service Timber.	Net Revenue.	OTHER EXPENDITURE.			Surplus.
				Overhead.	Capital Improvements.	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	66,673	109,198
	£1,338,022	£141,224	£1,196,798	£151,736	£186,465	£338,201	£858,597

* 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.

From this Schedule will be observed that the gross revenue of the Forest Service for 1922 was higher by over £100,000 than the previous record figure, that the net revenue of 1922 was a record by some £36,000, that the surplus for 1922 was £109,198, and that the accumulated surplus from Forestry for the 19 years from 1904 to 1922 amounts to £858,597.

EXPENDITURE.

The allocation of the expenditure for the year 1922, viz., £158,618, is shown in the following table:—

	January to December, 1922.			Total.	Per cent.
	Revenue.	Loan.	Trust.		
	£	£	£	£	
Overhead Expenses—					
Salaries	17,093	..	..	17,093	
Administration	1,558	9,571	..	11,129	
E.L.A. to Officers	343	..	..	343	
T. and L.	6,293	..	..	6,293	
Postages, Telegrams	624	..	..	624	
	25,911	9,571	..	35,482	22.37
Capital Improvement—					
Forest Organisation	4,877	23,673	..	28,550	
Roads to Crown Timber Areas	2,641	..	..	2,641	
	7,518	23,673	..	31,193	19.67
Trading—					
Harvesting and Marketing	17,086	..	32,834	49,920	
Lumbering (hewn, split, and pole timber)	..	..	42,025	42,025	
	17,086	..	74,859	91,945	57.96
				£158,618	100.00

RECEIPTS.

The gross receipts of the Forest Service for the year, viz., £267,816, were made up as follows:—

	£
Revenue from sale of log timber	207,259
Revenue used for Harvesting and Marketing purposes	7,754
Payments to vote on behalf earnings Gympie teams, &c.	1,171
Payments to vote, Forestry and Lumbering Fund recoupments	51,632
	£267,816

The log sales revenue of £207,259 was contributed to by the various districts as follows:—

	Per cent.
Gympie-Maryborough	42.6
Nanango	18.4
Ipswich	10.1
Atherton	11.5
Gladstone	5.4
	88.0

The balance of 12 per cent. was chiefly comprised of collections in the Brisbane and Bundaberg Districts.

ADMINISTRATION.

CHANGES IN DISTRICT ORGANISATION.

The following changes in District Organisation were made:—

Gladstone Forestry District (headquarters Gladstone) separated from the Bundaberg District. New district embraces Gladstone Land Agent's District (direct supervision) and Rockhampton, Emerald, and Clermont Land Agents' Districts (supervision of timber sales).

Mackay Forestry District—The Mackay Land Agent's District and neighbouring territory were brought under direct control of the Forest Service, insofar as control of the timber business was concerned.

PERSONNEL.

The constitution of the personnel at 31st December, 1922, was as follows:—

Salaried officers	74
General	213
Forest Service Sawmills	132
	419

AWARDS.

The Forestry Employees' Award was varied as from 17th July, 1922, as follows:—

Grade.	District.	Wages.	
		Award (1-3-21).	Award (17-7-22).
Probationers	Southern ..	per hour. £ s. d. 0 1 11	per hour. £ s. d. 0 1 10
	Northern ..	0 2 2	0 2 1
Forest Service Labourers	Southern ..	per week. 4 6 2	per week. 4 1 7
	Northern ..	4 15 4	4 11 8
Forest Service Sub-Foremen	Southern ..	4 8 0 to	4 3 5 to
	Northern ..	4 15 4	4 10 9
Overseers	Southern ..	4 17 2 to	4 13 6 to
	Northern ..	5 4 6	5 0 10
Foremen	Southern ..	4 9 10 to	4 5 3 to
	Northern ..	5 10 0	5 5 5
Forest Factors	Southern ..	4 19 0 to	4 15 4 to
	Northern ..	5 19 2	5 15 6
Hewers of girders, transoms, walings, and headstocks	Southern ..	4 13 6 to	4 8 11 to
	Northern ..	5 17 4	5 12 9
Hewers of other squarers or dressed timbers and cutters of piles	Southern ..	5 2 8 to	4 19 0 to
	Northern ..	6 6 6	6 2 10
Wellsinkers (over 15 ft. in depth)	Southern ..	5 13 8 to	5 9 1 to
	Northern ..	7 8 6	7 3 11
Wellsinkers (over 15 ft. in depth)	Southern ..	6 2 10 to	5 19 2 to
	Northern ..	7 17 8	7 14 0
Wellsinkers (over 15 ft. in depth)	Southern ..	4 19 0	4 14 5
	Northern ..	5 8 2	5 4 6
Wellsinkers (over 15 ft. in depth)	Southern ..	4 13 6	4 8 11
	Northern ..	5 2 8	4 19 0
Wellsinkers (over 15 ft. in depth)	Southern ..	4 15 4	4 10 9
	Northern ..	5 4 6	5 0 10

The Forest Service Sawmills' Award was also varied as from 17th July, 1922, a reduction in the rates to the extent of 4s. 7d. per week being made by the Court.