
ANNUAL REPORT

OF THE

SUB-DEPARTMENT OF FORESTRY

FOR THE

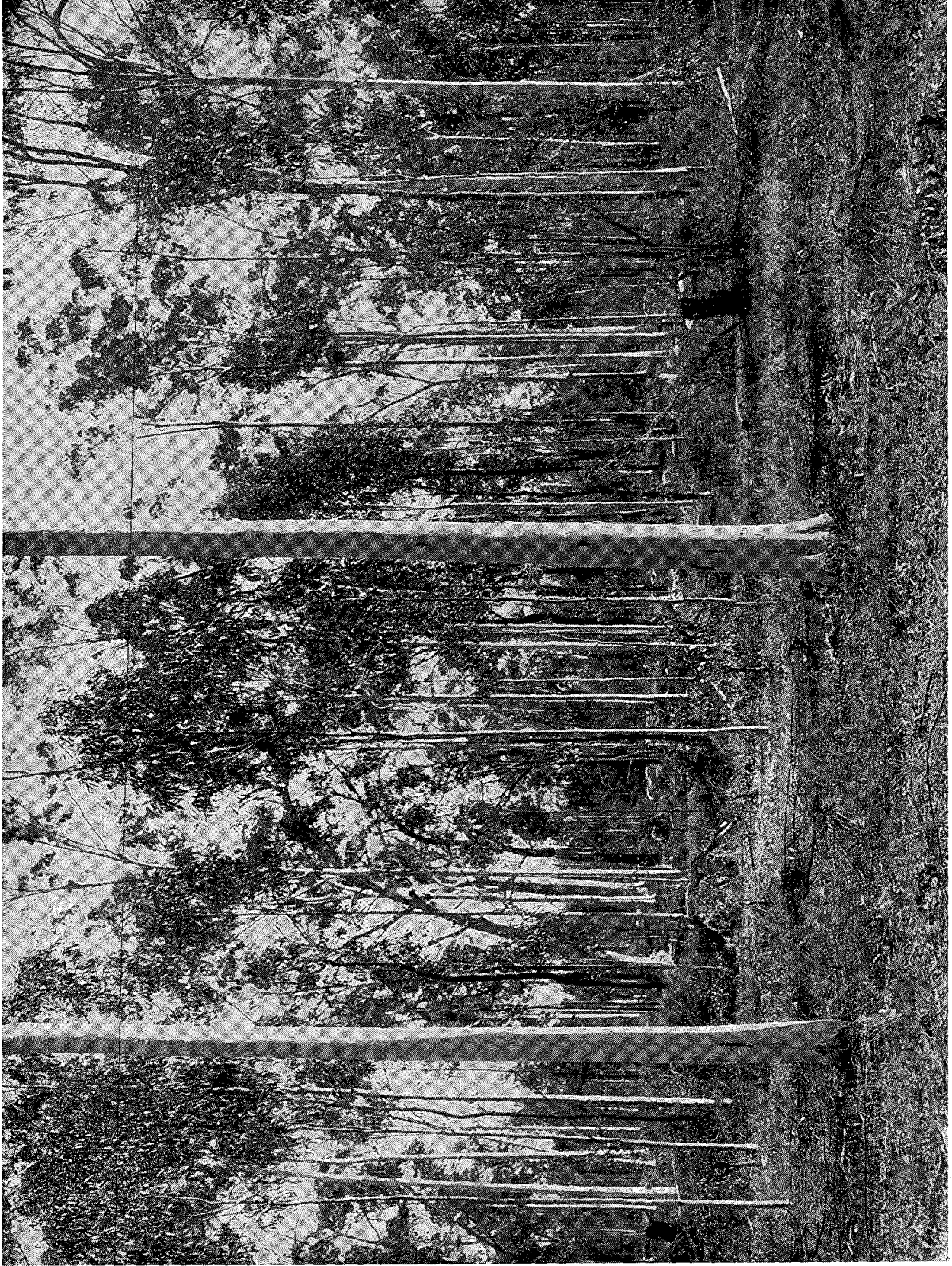
YEAR 1935-36.

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Spotted Gum (*Eucalyptus maculata*). Natural regeneration following treatment and subsequently thinned. 40,281 acres were treated during 1935-36 for regeneration purposes. Total area so treated in the State is 178,429 acres. [Photo. by J. A. Lamm, Survey Office.

FEATURES OF THE YEAR'S WORK.

1. Sales of Crown hoop and bunya pine logs again showed an increase compared with the previous year; the phenomenal cut of 98,500,000 super. feet being recorded during the year under review, as against last year's cut of 95,000,000 super. feet.

2. The demand for hardwood logs resulted in the marketing of 22,200,000 super. feet compared with 20,200,000 super. feet in the previous year, thus establishing a new record sale figure.

3. Sales of cypress pine logs during the year totalled 4,800,000 super. feet (last year 3,100,000 super. feet). Sales of this species have grown rapidly over the past two years, 1933-34 figures in comparison being only 1,600,000 super feet.

4. North Queensland figures also reflected an increased demand as compared with last year in walnut and maple. Kauri pine showed a slight increase, and the dullness of the oak market is indicated by a very considerable drop. The following figures indicate the position, last year's being shown in parentheses:—

	Super Feet.	Super Feet.
Kauri pine	(6,627,000)	6,693,000
Walnut	(1,088,000)	2,925,000
Maple	(3,995,000)	4,642,000
Silky oak	(7,360,000)	3,476,000

5. Total sales of cabinetwoods embraced 13,000,000 super. feet as against 15,000,000 super. feet for the preceding year, whilst scrubwoods (second-class cabinetwoods) again showed an increase, the figures being 3,000,000 super. feet as opposed to 2,700,000 super. feet for 1934-35.

6. Railway and tramway requirements for Crown timbers were recorded as follows, last year's sales, also, being shown:—

Sleepers (428,000) 280,000 pieces;
 Sleeper blocks (32,500) 31,600 pieces;
 Headstocks, transoms, and crossings (557,000 super. feet) 651,500 super. feet; and
 Girders, piles, &c. (134,000 lineal feet) 122,400 lineal feet,

7. The output of house blocks and poles again increased, the figures being, last year 309,000 lineal feet, compared with 319,000 lineal feet during this year. Likewise, fencing timber sales maintained steady demand.

8. The timber revenue paid to the Treasury decreased from £307,776 to £302,777. The gross amount collected by the Department from all sources was £660,455, which is over £50,000 in excess of the gross figure realised in 1934-35.

9. The timber seasoning kiln established by the Department for research purposes was in active operation, and over 128,000 super. feet of timber was dealt with.

10. The work of investigating forest products, advising species for uses and uses for species, and identifying woods was continued.

11. Displays of Queensland timber were made at the Brisbane, Melbourne, and Sydney Royal Shows. Active co-operation was maintained with the Queensland Government Tourist Bureau in regard to displays at Tourist Bureaux at Sydney and Melbourne.

12. The total expenditure for the year in reforestation—other than supervisory salaries—was £114,311, or £31,004 in excess of the expenditure in this direction during 1934-35.

13. The forest plantation acreage was increased by 2,364 acres, the total acreage under plantation as at 30th June, 1936, being 15,416 acres. In these plantations 1,600,000 trees were used, the principal species being hoop, kauri, slash, and Mexican pines, and ironbark.

14. Nursery stocks at the end of the year embraced 3,500,000 plants.

15. The work of treatment of the natural forest for betterment of the stand and promotion of regeneration was actively pursued, a total of 40,281 acres of hardwood and cypress pine forests being so treated.

16. New forest stations were established in a number of areas, and forestry work was initiated on the following reserves:—State Forest Reserve 137, Yabba (Jimna, via Kilcoy), State Forest Reserve 303, Doongul (Aramara), State Forest Reserve 173, Durundur (Woodford), Timber Reserve 611, Beerwah (Beerburrum), State Forest Reserve 117, Apsley (Clermont), State Forest Reserve 48, Umbercollie (Goondiwindi).

17. The acreage under forest nursery was extended, and one new nursery was established during the year.

18. Provision of housing for the resident staff was made on a number of forests, ten houses being erected.

19. The work of protecting the forests was actively proceeded with. Fourteen hundred miles of firebreak were established or maintained. Patrol was conducted as necessary, and outbreaks reported were promptly dealt with. No serious losses from fire on treated areas were reported, but many extensive outbreaks occurred on untreated areas. In addition, four lookout posts were established and equipped.

20. Under the scheme for providing work for young men, 103 between the ages of sixteen and twenty-one were employed in camps on nineteen reserves carrying out forest improvement work under the supervision of overseers. The work carried out by these young men has been very satisfactory.

21. Silvicultural research work was continued. A forest entomologist was appointed during the year. The services of the forest pathologist who is attached to the Department of Agriculture and Stock proved of great value. Several officers of the Sub-Department were also engaged full time in experimental studies from which results of assistance to the executive technical staff were secured. Noteworthy advances in connection with *Mycorrhiza*, and the control of the disease "Fused needle" in *Pinus* spp. were recorded during the year.

22. The Sub-Department continued its policy of assisting School Forestry plots, and at 30th June last fifty-nine of these were in existence.

23. Expenditures in reforestation works afforded employment to 1,103 persons, and at 30th June, 1936, the number of wages employees of the Sub-Department was 613, compared with 537 on 30th June, 1935.

24. One Forest Survey Camp worked in the Mulgrave and Mount Molloy districts in North Queensland, carrying out Class 2 assessment surveys of approximately 32,000 acres.

25. In Southern Queensland, Forest Survey Camps operated in the Bundaberg, Maryborough, Kilkivan, Dalby, Mary Valley, Brisbane Valley, Brisbane, and Kileoy districts, and covered 231,513 acres. The work carried out consisted of inspection, firebreak, compartment, type, and estimate, planting, and Class 3 survey.

26. The work of reclassifying forest lands was continued. The acreage of permanent State Forests was increased by 302,000 acres, the total area so reserved at 30th June, 1936, being 2,640,000 acres.

27. The most important of the new reservations were six areas cypress pine and/or hardwoods in the Dalby and Roma districts, an extensive hoop pine forest in the parish of Grongah (Kilkivan district), and a large area carrying hardwood—principally spotted gum—in the Monto district.

28. Temporary timber reservations embraced an area of 3,542,466 acres as at 30th June, 1936, an increase of some 5,000 acres as compared with the beginning of the year.

29. Six new National Parks were proclaimed during the year. These included Dunk and Brampton Islands, Eungella, and Mount Bauple. The total acreage so added was 5,479 acres, making a total of nearly 342,000 acres reserved for National Parks in Queensland as at 30th June, 1936.

30. The total area reserved as at 30th June, 1936, as State Forest and Timber Reserve was 6,183,000 acres, as against 5,775,000 acres, as at 30th June, 1935. Including National Parks, the acreage reserved at 30th June last embraced 6,524,000 acres—the largest area yet held under control of this Sub-Department.

31. Two rangers were appointed during the year for the special purpose of carrying out work in connection with National Parks.

Report of the Director of Forests for the Year ended 30th June, 1936.

INTRODUCTION.

The Potential Forest Capital—

With the completion of another year of unprecedented activity in all forest industries the truth of the statement that the forest is a reservoir of labour becomes more apparent. Never before has there been such employment in the logging and milling of Crown timber, in the construction of logging roads, and in reforestation operations.

A realisation of the capacity of the State Forests to afford useful employment must result in a fuller appreciation of the value to the people of Queensland of this State asset.

The forests confer so many direct and indirect benefits on the community that it is impossible to assess in concrete figures their real value to the nation.

One of the direct benefits is the revenue paid into the public purse from the sale of timber and other forest products. During the last two financial years an amount in excess of £600,000 has been so contributed. The advantage of continuing such a dividend in perpetuity is obvious, and the enormous value of an asset which would yield such a dividend is worthy of further consideration.

Under sound forest management the annual cut should not exceed the annual growth; in other words, only the interest should be utilised and the capital should be retained intact.

If a forest is being operated on a sound basis, *i.e.*, on the principle of a sustained yield, and the mature timber cut is assumed to be of average value, then a forest estate which is capable of returning a net revenue of over £300,000 per annum can reasonably be estimated to possess a capital value of the order of £7,500,000 on a 4 per cent. basis.

It is therefore apparent that the expenditure of a considerable sum of money is warranted on the building-up, maintenance, and protection of a forest asset comparable to the remnant of the virgin forests which have served the progress of the State so well in the past. In such a forest there would lie a public asset of constant utility and of a value of £7,500,000.

Unfortunately, as pointed out in the last Annual Report, the present annual cut is taken largely from the wood capital, the growth or interest being of little consequence, with the result that it is urgently necessary to rebuild the wood capital to a point where the annual cut can be supplied from interest—*i.e.*, annual wood increment.

Employment-affording Possibilities—

From the foregoing it can be readily seen that not only must the remaining forest asset be protected, but an extensive field of necessary reproductive employment is available in the reconstruction by reforestation operations of the very seriously depleted forest capital to a normal condition where on a sustained yield basis the annual requirements can be supplied from the annual growth.

And it is this availability of employment that can rightly be termed a "reservoir of reproductive work."

It is pleasing to record that the present Government is fully seized with the seriousness of the position and has demonstrated its appreciation of the State's forestry necessities by making available greatly increased appropriations for reforestation.

Thus, apart from the revenue derived from the sale of forest products, the forests have a very real value in that they provide direct employment for large numbers of men in building up and maintaining the forest capital. The employment-affording capacity of the forest does not stop there, however. Many thousands are engaged in the extraction and utilisation of forest produce, in building logging roads, in cutting, hauling, and loading the timber, and in milling and otherwise fashioning logs into utilisable form.

Indirect Values of Forests—

Whilst many people realise the direct values of the forests as indicated above, their indirect values are not so generally recognised. These are very important, however, and, although it is not possible to assess them in pounds, shillings, and pence, they may even exceed the direct and readily assessable values.

A few of these might be quoted briefly.

First of all, the protection aspect. Forests on the headwaters of streams can prevent disastrous floods by delaying run-off and reducing the peak of the flood. For the same reason erosion of the hillsides is lessened, and the silting of dams, streams, and reservoirs is mitigated. Forests also exercise an ameliorating effect upon climate which, in tropical and sub-tropical regions, is of more than ordinary consequence. They afford sanctuaries and refuges for birds, many of which are allies of mankind in destroying predatory insects. On water supply catchment areas they not only reduce silting of reservoirs but also help in the improvement of the water supply.

Another very important part played by the forests for the welfare of the nation is their use for recreational purposes. As the years pass and the natural vegetation is destroyed on settled lands, more and more people are finding in the forest areas a source of enjoyment and health. The forests are the home of many strange and beautiful plants—too tender to survive outside their limits—whilst birds and animals which otherwise would become extinct are given a chance to survive.

Preservation of the forests is necessary for the preservation of areas of outstanding scenic charm, and in the National Parks the policy of absolute non-interference with flora and the maintenance of these areas in their primæval state for the benefit not only of the present-day public but of posterity has been observed.

These areas, which also form valuable fields of study for scientists and naturalists, are being added to, and recently the Government has appointed two officers whose special duty is the care of the existing parks and the formulation of proposals for adding thereto.

In addition, all areas on State Forests of outstanding beauty are being permanently reserved, and attractive camping and picnic grounds are being preserved for the enjoyment of the public. Recreation will be one of the main uses of the State Forests of the future.

HARVESTING AND MARKETING OPERATIONS.

The year under review saw a still greater demand for Crown logs, and the total sales for the year—viz., 148,000,000 super. feet—were approximately 5,000,000 super. feet in excess of the previous year's total.

This activity marked a continuance of the upward trend experienced since the depression years of 1930-31 and 1931-32, and the log sale figures realised during 1935-36 represent a new peak.

This continued buoyancy was largely due to the great activity in the building trade in Queensland. Index figures of the building industry as supplied by the Bureau of Industry show a steady increase in the values of building permits issued in Brisbane.

In June, 1936, the index figure given was 77.4 for the three months ended April, 1936, representing an increase of 5.5, as compared with the corresponding period of 1935. In August, 1931, the index figure, which indicates the percentage as compared with pre-depression business, was only 21.7.

Continued demands for ply logs contributed to the activity of the log market, as did also the improvement in Southern markets.

The following table shows the quantity of logs cut by Queensland sawmills for the years 1924-25 to 1934-35, inclusive:—

Year.	Softwoods (Hoop, Bunya, Kauri, Cypress Pine.)	Hardwoods (principally Eucalyptus spp.)	Other Timbers.	Total.
	Super. ft.	Super. ft.	Super. ft.	Super. ft.
1924-25.. ..	111,565,000	91,500,000	24,500,000	227,565,000
1925-26.. ..	90,615,000	87,600,000	31,960,000	210,175,000
1926-27.. ..	90,832,000	80,320,000	23,330,000	194,482,000
1927-28.. ..	73,499,000	80,570,000	19,250,000	173,319,000
1928-29.. ..	85,109,000	72,660,000	20,190,000	177,959,000
1929-30.. ..	70,411,000	63,350,000	19,460,000	153,221,000
1930-31.. ..	42,711,000	46,120,000	14,700,000	103,531,000
1931-32.. ..	41,459,000	39,960,000	13,220,000	94,639,000
1932-33.. ..	60,920,000	44,230,000	13,800,000	118,950,000
1933-34.. ..	70,700,000	44,860,000	14,200,000	129,760,000
1934-35.. ..	105,000,000	71,200,000	29,000,000	205,000,000

The above figures, which are supplied by the Government Statistician, represent all logs cut, whether from Crown or private lands, but do not include logs exported to overseas. Quantities for 1935-36 are not available at time of writing, but the figures given illustrate the improved position of the Queensland sawmill industry.

Reference to the cut of Crown logs for 1935-36 will show that this improvement is being well maintained. A table illustrating the cut of Crown logs as compared with total sawmill cut for the years 1925-26 to date is subjoined. In reading this, allowance must be made for the fact that some logs cut on Crown lands were exported for sawing and veneering in Southern States, the actual quantity not being available. Logs sawn by Queensland mills represent, however, over 95 per cent. of the total cut.

Year.	Total Mill Log Cut (1,000 super. feet.)	Logs from Crown Forests (1,000 super. feet.)
1925-26	210,175	72,000
1926-27	194,482	71,000
1927-28	173,319	56,000
1928-29	177,959	65,000
1929-30	153,221	57,000
1930-31	103,531	35,000
1931-32	94,639	39,000
1932-33	118,950	60,000
1933-34	129,760	81,000
1934-35	205,000	143,000
1935-36	..	148,000

This table illustrates the increasing dependence of the industry on the Crown forests following the depletion of private resources—a factor which has materially contributed, as an analysis of the table will show, to the very high figures of log sales attained by the Department. Apart from this, however, there has been a very large increase in cut during the last few years, and the increased employment reflected in the figures given above has been a feature of the State's economic recovery. In this connection it is pleasing to record that there has been no reduction of the tariff against imported timbers. Any material reduction in the tariff would have serious effects, not only to Queensland but to the Australian sawmill industry. That the Commonwealth Government is seized with this fact is indicated by the action taken following representations by the Australian Federated Sawmillers' Association (on which the Sub-Department has representation) to increase the tariff on Oregon logs, which many firms, particularly in the South, were importing and sawing, to the detriment of local timbers. If this practice had been allowed to spread the effect on bush employment in cutting and hauling of timber and on the log freights carried by the Railway Department would have been grave.

The Department's general policy in regard to tariff matters has been to co-operate in securing and maintaining protection for local timbers, and industries using those timbers, and in this connection it has actively co-operated with the Australian Federated Sawmillers' Association.

The Department was represented by Mr. G. A. Duffy, Chairman of the Timber Industry Advisory Committee, on a Tariff Board inquiry into the reduction of duty on door panels of Oregon and Redwood plywood.

Representations have also been made in opposition to a reduction of duties on Borneo Cedar, which would have a serious effect on the use of North Queensland cabinet timbers.

The Timber Industry Advisory Committee, under the chairmanship of Mr. G. A. Duffy, was called together by the Government during the year, following representations of cut-throat and unfair competition in the sawmill and joinery industry which, it was stated, was having an adverse effect on stability of employment and on the position of those firms who were honouring recognised industrial conditions. This Committee comprised representatives of the Government, the Price Fixing Commission (Forestry Sub-Department and Department of Agriculture and Stock), the sawmill industry, the joinery industry, and the Australian Workers' Union representing the employees.

Towards the end of the year the Committee presented a comprehensive report to the Government in which they found that conditions were unsatisfactory, and at the time of writing a measure, arising out of recommendations made by the Committee, is before Parliament with the object of making it compulsory for all sawmills to be licensed.

The net revenue derived from the sale of timber was £302,777, as compared with £307,776 for the preceding year. This small drop is more than accounted for by the extra expenditures in road work, the costs of which are met before the net timber revenue is realised. Gross receipts for the year before deducting costs of haulage, road work, supervision, advertising and marketing, and utilisation research, amounted to the rather considerable total of £660,455, which compares very favourably with the total of £608,935 realised in 1934-35.

The Hoop and Bunya Pine Log Market—

The year saw the greatest output yet recorded of hoop and bunya pine logs from Crown forests. An increase of 3,000,000 super. feet over the previous year's record figure brought the total for 1935-36 to 98,500,000 super. feet.

The figures since 1925-26 are as follows:—

Year.	1,000 super ft.	Year.	1,000 super ft.
1925-26	53,100	1931-32	26,000
1926-27	52,100	1932-33	42,500
1927-28	41,200	1933-34	59,000
1928-29	44,700	1934-35	95,000
1929-30	36,500	1935-36	98,000
1930-31	22,100		

These figures illustrate a remarkable recovery since 1930-31, but it must be borne in mind, as stated previously in this Report, that there has been a falling-off in the log cut from private lands, and this is particularly true in

the case of hoop and bunya pine, fairly considerable supplies of which were at one time in private hands. This point, which was dealt with at some length in this Sub-Department's last Annual Report, need not be further stressed here.

The policy of making pine timber available to mills at a price to enable competition against imported timbers was continued, and during 1935-36, 17,452,000 super. feet were sold under these conditions, representing an increase of about 6,000,000 super. feet as compared with the previous year. In 1933-34, 8,464,000 super. feet, and in 1932-33, 3,013,000 super. feet were so disposed of.

One of the difficulties encountered by the Sub-Department in selling pine logs is the fluctuating demand for "tops," which are used principally for case production. Orders for this class of log are not always received in due proportion to those for the better class of log, so that to supply the latter demand it then becomes necessary to leave some of the tops in the bush. During the latter half of the year under review the demand for tops was not as good as could be desired.

The Plywood and Veneer Industry—

This industry showed markedly increased activity during the year, and figures to hand from the South Queensland Plywood and Veneer Board show that the output of pine plywood and veneer on a 3/16th-inch basis for the factories under control of the Board was 54,500,000 square feet for the year, of a value of approximately £375,000, as compared with 48,500,000 square feet, valued at £309,687, for the preceding year.

The Government Statistician supplies the following particulars of plywood and veneer production in Queensland for the years 1927-28 to 1934-35, inclusive.

Year.	Log Timber.	Producing :	
		Plywood.	Veneers.
	super. ft.	sq. ft.	sq. ft.
1927-28	4,769,822	19,434,306	..
1928-29	6,862,314	24,901,448	..
1929-30	5,875,253	21,376,034	..
1930-31	3,546,483	12,942,476	..
1931-32	5,309,652	17,029,995	..
1932-33	10,115,492	31,652,667	6,275,696
1933-34	11,775,345	39,673,813	12,999,216
1934-35	18,367,677	56,669,610	11,056,256

The above table illustrates the increasing value and importance to the State of the plywood manufacturing industry.

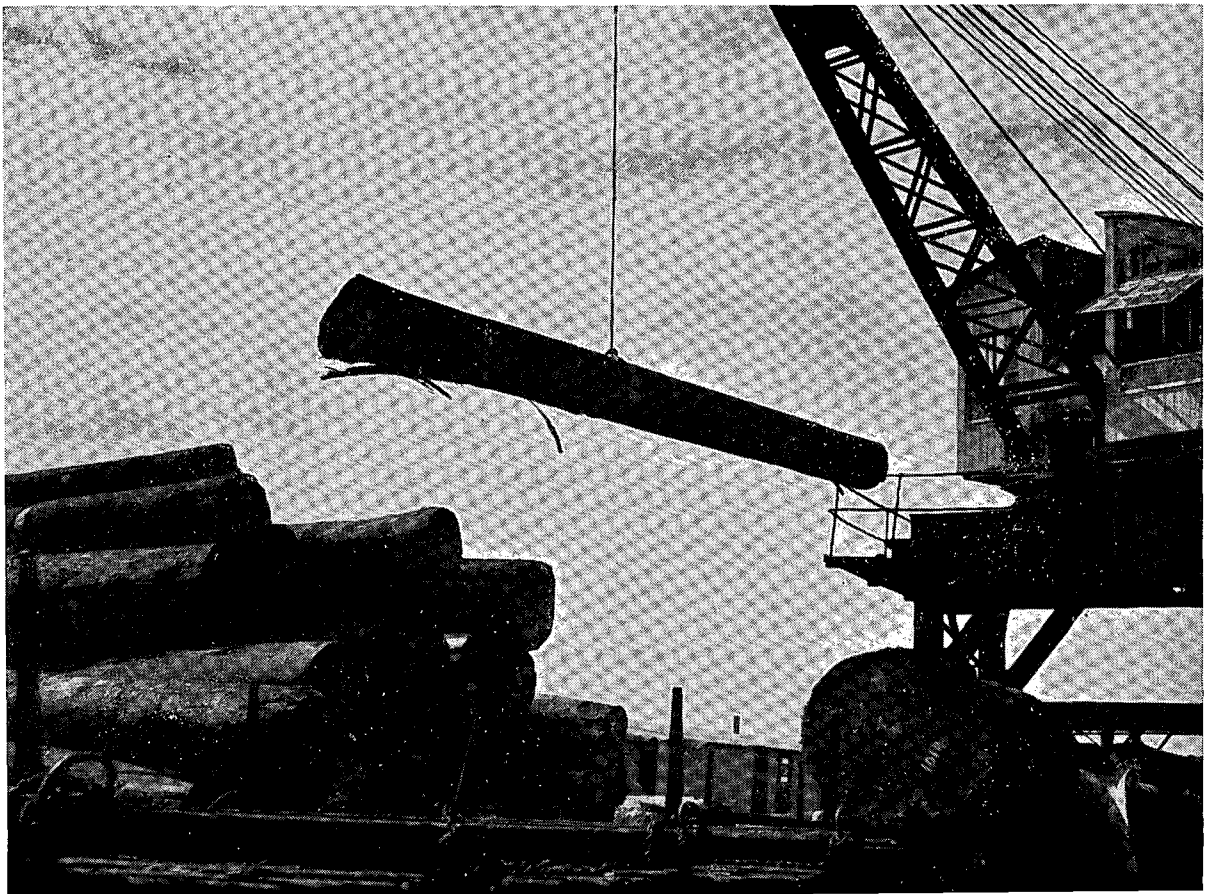
Export business in pine plywood was very brisk, and during the year approximately 47,000,000 super. feet, of an estimated value of £325,000, was exported beyond the State.

The Veneer and Plywood Board has been actively bending its endeavours towards improvement of plywood quality, and during the year employed a chemist full time on testing materials used by manufacturers. The Forest Products Division of the Council for Scientific and Industrial



Logs Awaiting Shipment, Cairns Inlet, North Queensland.

The logs stored in the water are principally Kauri, which is finding an increasing market in South Queensland for plywood purposes. [Photo. "Telegraph" Newspaper Co. Ltd.]



Electric Crane Handling Logs, Cairns, North Queensland.

Logs which sink are stored on wharf railway siding awaiting shipment. Walnut and Oak logs for plywood and cabinetwood purposes are the principal species. [Photo. "Telegraph" Newspaper Co. Ltd.]

Research also made available to the Board for a period of three months the services of Mr. S. F. Rust, who has recently made a comprehensive study in America of the latest methods and treatment of glues and plywood.

As indicated elsewhere in this Report the Department is co-operating with the Plywood and Veneer Board in erection of a properly equipped plywood research laboratory, establishment of which will facilitate the work of the research officers. Similar co-operation has been displayed in the securing of the assistance of the Forest Products Division of the Council for Scientific and Industrial Research in investigating treatment of woods susceptible to attack by *Lyctus* borer.

During the year the terms of office of the Plywood and Veneer Boards both of South and North Queensland were extended for three years. No petition was received for a poll to be taken as regards such extension.

A new veneer slicing plant was opened during the year, whilst three more were in course of erection. This is a very forward step, as slicing enables the production of highly figured veneers which, in many cases, cannot be secured from the rotary process.

Building Hardwoods—

The demand for hardwood logs for milling for such purposes as house framing, weatherboards, &c., continued good, and the quantity sold—22,200,000 super. feet—is the greatest for any one year to date. In the previous year 20,200,000 super. feet were disposed of.

As in the case of pine logs, an increasing call is being made on Crown forests on account of the depletion of private supplies. In 1927-28 only 9.3 per cent. of the total hardwood log cut was supplied from Crown lands; by 1933-34 the percentage had risen to 24.3, whilst in 1934-35 the figure was 28.4 per cent. Figures of logs cut on private lands for 1935-36 are not yet available.

The Cabinetwood Market—

Queensland's supplies of cabinetwood logs are almost totally drawn from the forests of North Queensland, where the District Forester reports a busy year. He says:—

“During the year demand for kauri logs has been keen. Some of the larger local mills are establishing a trade in big fitches with London; also in Brisbane there has been a constant flow of logs for rotary peeling.

“Walnut has also been in firm demand. The policy of preference to veneer manufacturers limited the market somewhat, but it would have been impossible to have supplied the whole market with logs if trade had been extended to sawmills and exporters.

“The Department's policy caused the latter to enter into keen competition for privately owned logs, and prices soared accordingly. For specially selected veneer logs in walnut, prices went as high as £10 per 100 super. feet on trucks, Tableland depôts. An Australian record for one tree was created at Millaa Millaa when over £1,200 was paid for the logs from one tree.

"An even trade in maple marked the year's operations with a tendency to weaken when the extreme wet weather prevented deliveries coming forward.

"At the end of the year I held orders for about 1,000,000 super. feet of maple, but I am of opinion that it will be wise to limit maple deliveries to actual orders to prevent a slump in the trade.

"Red cedar trade was very healthy, mainly on account of supplies going forward to Railway Works at Ipswich and orders for sawn timber to go to the New South Wales Government Railways.

"Oak also was sought after at commencement of year, but towards the wet season log requirements declined markedly.

"Putts pine was always saleable, the market for this species appears to be mainly in Sydney. Logs can always be sold there, when local mills are not interested.

"Secondary timbers, as usual, were not handled to any extent by the Department, but three secondary timbers that appear to be moving into prominence are pencil cedar, Tarzali silkwood, and brown beech."

The cut of logs of the main cabinetwood species for the year in the North Queensland district, as compared with previous years, is as follows:—

Species.	1932-33.	1933-34.	1934-35.	1935-36.
	Super. feet	Super. feet.	Super. feet.	Super. feet.
Kauri pine	2,789,000	3,675,000	6,627,000	6,693,000
Maple	646,000	1,349,000	3,995,000	4,642,000
Walnut	520,000	461,000	1,088,000	2,925,000
Silky oak	1,162,000	1,605,000	7,360,000	3,476,000
Other cabinet woods	2,223,000	1,406,000	2,092,000	1,281,000

Cypress Pine—

Sales of cypress pine for 1935-36 are the highest on record, nearly 4,800,000 super. feet having been disposed of as compared with 3,111,000 super. feet in 1934-35, and 3,350,000 super. feet in 1928-29, the previous largest figure.

With the approaching depletion of the hoop pine forests, which are being cut much faster than they are growing, cypress pine is coming in for much greater interest. This white-ant resistant utility timber is of great value for building, and a rough survey of available resources indicates that if these are put under proper forest management the present cut can be greatly increased on a sustained yield basis.

Cypress pine is certain to play an important part in bridging the gap between the cutting-out of our native hoop pine forests and the the arrival at marketable stage of the plantations being established by the Sub-Department.

For the purpose of assisting the marketing of cypress pine investigations are at present being carried out in regard to the seasoning, treatment for exterior work and for internal decoration, grading studies, and general investigation *re* special utilities.

Sandalwood—

As mentioned in the last Annual Report the passing of "*The Sandalwood Act of 1934*," brought Queensland into co-operation with the other interested States—Western Australia and South Australia—in a common marketing scheme.

Owing to the dullness of the market in China operations during the year just closed were restricted; the quantity purchased from cutters amounted to 169 tons, the payments to the cutters totalling £2,175. The quantity shipped to China amounted to 109 tons.

The substantial increase in the price of silver with the consequent advance in the value of the dollar early in the year accentuated marketing difficulties, and coupled with serious floods in two of the main distributing centres considerably curtailed the purchasing power of consumers, resulting in a falling-off of sales of wood from all Australian States.

A further factor, and one which has assumed serious proportions so far as the marketing of Queensland wood is concerned, is the territorial restriction of the market brought about by the penetration of Japan into the Northern Provinces of China. Two of those Provinces were previously large buyers of Queensland wood, but as they are now under Japanese control the dealers refuse to send supplies there on credit due to the fact that they have no legal redress in case of non-payment.

Action was commenced during the year to develop an entry for Queensland Sandalwood into another market outside China, but it is too early yet to say what success will be met with in this direction.

Constructional Timbers—

That the demand for direct supply of Railway bush timbers and bridge timbers to the Railway Department; the Main Roads Commission and other public and private bodies, whilst not equal to the phenomenal demand of the previous year, was well maintained is evidenced by the following table of sales made of timber supplied by Departmental contractors:—

	1934-35.	1935-36.
Sleepers	250,578 pieces	149,478 pieces
Crossings	210,919 super. feet	92,631 super. feet
Transoms	154,862 super. feet	217,997 super. feet
Bridge timbers	61,392 lineal feet	50,864 lineal feet

The Railway Department, which had stocked heavily during 1934-35, was more limited in its demands, but the deficiency was met to some extent by the successful negotiation of a further large order from the Falmouth Docks and Engineering Co. Ltd., England, for 600 turpentine piles, 300 pieces

of hewn ironbark (32 ft. x 14 in. x 14 in.) and 2,750 pieces of sawn brush box decking (9 in. x 3 in.). This order is the third one secured in five years from this company, which has always expressed its entire satisfaction with the quality of the timber supplied. The Railway Department's requirements were confined to maintenance timbers.

Orders were fulfilled on account of Aramac and Burke Shire Councils, and Brisbane City Council, for sleepers, crossings, and decking. A small quantity of turpentine piles was despatched to Fremantle for the Cottesloe Municipality. Supplies to private firms included Messrs. Queensland Lime and Cement Co., Evans, Deakin & Co. Ltd., and Australian Sugar Co. The Main Roads Commission's requirements were fulfilled either direct or through their contractors in respect to Clifton Highway, Dee River, North Beatrice River, and Blue Water Creek Bridges and bridge in the Coomera Shire. The Public Estates Improvement Branch drew for supplies for bridges in the Silkwood area. Early in 1936 consideration was given to the schedule of prices operating for Railway bush timbers, but an investigation did not reveal any fresh information warranting a revision of prices in force. Taken throughout, the year has been satisfactory for the broad-axe men.

The following table shows the total quantity of constructional timbers sold by the Department, both at stump and from the operations of Departmental suppliers.

	1933-34.	1934-35.	1935-36.
Sleepers pieces	177,045	428,054	279,743
Headstocks, transoms, and crossings .. super. ft	344,900	557,443	651,551
Girders, corbels, piles, and sills .. lin. ft.	89,549	134,040	122,494
Poles lin. ft.	88,958	144,876	159,052
House blocks lin. ft.	113,112	163,933	159,584
Mining timbers lin. ft.	115,294	150,443	149,031
Mining timbers pieces	36,459	30,507	60,151

Logging—

During the year the sum of £204,592 was paid to Departmental haulage contractors, as a result of whose operations nearly 60,000,000 super. feet of hoop and bunya pine and 20,000,000 super. feet of other species, principally cabinetwoods, were marketed.

On the whole, the weather in South Queensland was favourable to logging, and few hold-ups were experienced. In North Queensland for the first six months the weather was good, but after that repeated rains made logging possible only to a limited extent. Fortunately, large quantities of logs had been delivered to rail, and the mills held large stocks, so that there was little hold-up of mill operations on account of shortage of logs.



Kirrama Road Construction. In 1935-36 the sum of £64,467 was expended by Forestry Sub-Department in road construction, maintenance, and subsidies.

[Photo P.E.I. Branch.]



Snigging Hardwood Logs by Caterpillar Tractor. Mapleton State Forest.
Over 22,000,000 super. feet of hardwood logs were sold from Crown forests during 1935-36.
Sales of Crown logs of all species accounted for 148,000,000 super feet.

[Photo. by courtesy of "Telegraph" Newspaper Co. Ltd.]

Reference was made last year to the fact that with the sharp increase in cut following the depression there was a shortage of experienced timber workers, especially fellers, and the loss through faulty cutting was considerable. This position was rectified to a certain extent during the year, improvement in operations being noticeable as the newcomers to the industry gained experience.

The District Forester, North Queensland, reports:—"A continued improvement in bush work is apparent. Two years' constant work has evolved a good type of lumberman."

The trend towards mechanisation of logging plants, mentioned in last year's report, was continued during the year. The District Forester for North Queensland observes in this regard that logging plants in that district are completely modernised and efficient, and capable during favourable weather of handling all log supplies required.

For mechanical transport good roads are a necessity, and the Department has pursued a vigorous policy of road construction and improvement. Several large forestry road projects are being undertaken by the P.E.I. Branch of the Lands Department, these being the Robson's Creek Road (Danbulla State Forest), a road from Kuranda towards Timber Reserve 315, Smithfield, and the Kirrama Road, which latter will serve the important Kirrama State Forest, where there are large quantities of kauri pine and other cabinet-woods. In all, £44,736 were expended in works undertaken by the P.E.I. Branch.

The sum of £8,504 was spent on roadwork carried out by Departmental gangs and by Local Authorities for the Department, and at Departmental expense. The chief projects were the construction of a road to Grongah State Forest, the work in this case being undertaken by Kilkivan Shire Council; roads up Muddy Creek and Emu Creek on Benarkin State Forest; roads up Araucaria Creek and to Cambroon logging area of Brooloo State Forest; and Mary's Creek Road, Glastonbury State Forest (Gympie District). All of these roads serve important belts of pine timber.

Assistance to Local Authorities—

In addition to the above, the Department subsidised roadworks sponsored by Local Authorities to the extent of £5,220. A list of these subsidies is given in Appendix "M." These are cases in which the roadwork is of mutual benefit to timber operations and to settlement generally, and the extent of the subsidy is determined by the extent of the timber operations benefited.

The most important of these were the construction of the Linville-Mount Stanley Road by the Esk Shire Council serving large stands of timber on the Reserves at the head of the Brisbane River, the major portion of the cost being borne by the Department; and the Amamoor Creek Road tapping a large belt of pine on the Amamoor State Forest, the work being carried out by the Widgee Shire Council, practically the whole of the expenditure being met by the Department.

Unauthorised Timber Operations.

During the year 152 cases of breaches of the Land Acts and State Forest and National Parks Acts and Regulations thereunder were investigated.

In seventeen instances the offenders were prosecuted, fines totalling £90 being imposed, and revenue to the extent of £522 being collected as royalty on sale of timber involved. Prosecution action is also pending in three other cases. There were a number of other major breaches where proceedings were warranted, but sufficient evidence for this action was not available.

There were seventy-four cases where the position was met by collecting stumpage on the timber involved, with suitable penalty in some of the instances, and issuing appropriate warning against a repetition of the offence. The revenue collected in these instances amounted to £835.

The destruction of valuable timber under cover of ringbarking permits is a matter which causes the Department some concern, and during the past year there were five breaches of this nature investigated. Warnings were issued in each case, and amount of £137 to cover part of the damage done was collected.

Offences in twelve cases where the timber had been seized were dealt with by confiscating the seized timber and selling to best advantage, the amount so realised being £392.

Breaches such as cutting outside of sale areas (five cases), removing logs from sale area before crowning (one case), and five cases of minor offences were met by issuing warnings.

In five cases, involving breaches in which Local Authorities were concerned, the procedure was explained to the Shire Councils in question, and their co-operation sought.

In twenty-one cases evidence as to the offenders could not be obtained, whilst four cases are still being investigated.

Officers of this Sub-Department have co-operated with the Main Roads Commission in protecting timber on main roads, and during the year four cases of unauthorised timber operations on such roads were investigated, royalty on the timber being secured; whilst in one instance the Commission took proceedings against the offender, a fine of £1 being imposed.

Two instances of unauthorised removal of flora from Crown areas were referred to the Department of Agriculture and Stock.

As a result of actions taken in all cases an amount of £1,928 was secured to the Crown as timber revenue.

Acknowledgment is made of the ready assistance and co-operation extended at all times by officers of the Police Department in investigating these breaches of the Acts and Regulations.

Summary of Fire Reports.

The Forest Estate again suffered from depredations by fire in varying degree throughout the State.

The reservations in the Maryborough and Dalby districts suffered the largest number of outbreaks, and also those of the greatest severity.

The losses in individual outbreaks in the main were not reported as being heavy, but in the aggregate the destruction of timber by fire throughout the State from the matured tree to the seedling was serious.

The proportion of preventible fires is far too great; for instance, out of a total of 115 outbreaks reported, no less than 27 were stated to have been acts of incendiarism, 19 to be due to accidental causes, and 16 owed their origin to adjoining landholders burning-off on their property, the fire spreading to the adjoining reserve.

It is regrettable that deliberate firing should account for such a large number of outbreaks. In a fire-conscious community this percentage of outbreaks could reasonably be expected to diminish, and with due care and the taking of precautions the total could be further reduced.

It is due to the alertness and energy of the Department's field officers, coupled in some instances with the active assistance of neighbouring selectors, that the outbreaks have not been more disastrous.

The application of the provisions of the Rural Fires Act to the districts throughout the State, which present the greatest fire hazard, should assist in reducing the recurring annual losses caused through bush fires.

During the year, breaches of its provisions have been dealt with, and in one case of unauthorised firing on a State Forest, resulting in the destruction of part of the timber stand on the reserve, the offender was prosecuted and fined.

In another case, the offender was debited with the value of the trees destroyed.

Every effort is being made to co-operate with individual landholders, to assist in minimising the losses occasioned by bush fires, and landholders with property adjacent to forest reservations have been communicated with in an endeavour to strengthen such co-operative effort.

FOREST PRODUCTS SHOWROOM AND FANCYWOODS SECTION.

The activities of this Section, which are directed towards advertising Queensland timbers and the marketing of species hitherto regarded as having no market value, were continued during the year.

During the year displays were made as follows:—

- Royal National Show, Brisbane.
- Royal Agricultural Show, Melbourne.
- Royal Show, Sydney.

Displays were also prepared and forwarded to the Empire Exhibition, Johannesburg, South Africa, for inclusion in the Commonwealth display, and to the Commonwealth Trade Commissioners in Japan, New Zealand, China, Netherland East Indies, and South Africa.

A small display was prepared to be despatched to main country shows.

Increasing attention is being given in the exhibits to plywood, and in this connection local plywood manufacturers have co-operated by providing high-class material for display purposes. Stress has also been laid on decorative panelling and flooring with a view to extending the use of these forms of home embellishment.

That these displays serve their purpose is indicated by the number of enquiries for further particulars of our timbers and of their use for the various purposes.

The Forests Products Showroom, moreover, provides a permanent display not only for visitors from all parts of the Commonwealth and overseas, but also for local home-builders, who are able to inspect and decide on the timbers and styles best suited to their tastes and needs.

Efforts are also directed towards extending the use of Queensland-grown timbers, and towards pointing out the advantages of properly seasoned material. Preliminary action has already been taken to secure a specification of a large range of Queensland timbers in the building of the new University.

Fancywoods—

Stocks of lesser known timbers, or timbers not on the market generally, were carried in the Fancywoods Section. This enabled the public to obtain woods for special purposes, and at the same time served the policy of extending gradually the use of lesser known, but useful, species.

A development during the year was the decision to give some attention to cypress pine—a timber well known in Western Queensland, but unfamiliar to coastal users generally. Some stocks of this timber were procured for disposal by the Fancywoods Section.



Corner of a Display Arranged by the Queensland Forestry Sub-Department.
Displays are made at Brisbane, Sydney, and Melbourne each year.



A Charming Scene in the Lamington National Park.
Nearly 5,480 acres of new National Parks were proclaimed during 1935-36.

[Photo. R. Lahey.]

Sales—

Sales during the year totalled 135,187 superficial feet to the value of £5,033 4s. 6d., and included the following:—

Red tulip oak	.. .. .	82,009	super feet.
Silver ash	.. .. .	19,835	super feet.
Satinay	.. .. .	6,437	super feet.

This covered approximately 2,280 sales, ranging from 4d. to £300, for the following works:—Furniture, flooring, joinery, mouldings, carriage-work, boatbuilding, all classes of sporting goods, motor bodies and hoods, printers' blocks, musical instruments, aeroplanes and gliders, crutches, butter churns, pats, bakers' peels, and all classes of fancy goods.

Approximately 2,000 samples were issued during the year, including 47 sets to schools, 69 to business firms and architects, and 109 to country districts.

INVESTIGATIONS SECTION.

It is becoming more and more apparent that every industry depends for its progress, and sometimes its very existence, on a sound knowledge of science applied to its problems. Although the timber industry has for many centuries held an unchallenged leadership in many fields, competition of substitutes is becoming very intense in many directions. However, in the last decade, the timber industry has awakened to the challenge, and on every hand effort is being made to take advantage of the latest in scientific achievements.

It is one of the functions of this Section of the Sub-Department to keep the industry informed of recent developments in other States and overseas and to demonstrate these developments. It is pleasing to record that increasing use is being made of this service.

Seasoning—

The study of the seasoning of Queensland timbers continues to occupy a major portion of the year's programme. Effort has been made to visit every kiln in Queensland and to assist operators in their work. In the coming year it is planned to make at least one officer available to call on each mill, and, where a request is made, to act as demonstrator for a period. There are now in operation in Queensland 55 timber-drying kilns, 21 veneer or plywood driers, and 2 steaming chambers, while the construction of 8 new timber-kilns in the near future is being planned. The number of units in operation represents an increase of 20 for the year.

Most of these are operating on pine or cabinetwoods, but so far kiln seasoning of hardwoods (flooring, lining, and chamfer boards) is not as universal as would be desired. In this field, Queensland suffers in comparison with the Southern States, where kiln-drying of such stock has been widely adopted. A number of architects are now specifying a definite moisture content for flooring and other building timbers, but supplies of timber to the specifications are not yet readily available in all cases. More general adoption of kiln-seasoning will remove these disabilities.

Forest Service work in seasoning, apart from trade and public contacts, was largely in the operation of the experimental kiln. The number of runs completed was 32. Included in these were cedar, maple, rose gum, red tulip oak, red stringy, blackbutt, rose mahogany, and silky oak.

In addition, material for experimental purposes was forwarded to the Council for Scientific and Industrial Research, Melbourne. Material forwarded included silky oak, hoop pine, cedar, red stringy, blackbutt, brush box, satinay, red luster, spotted gum, cypress pine, and red tulip oak.

Some interesting observations were made on the air-seasoning of several species, including red tulip oak, rose gum, hoop pine, blackbutt, and cypress pine. This work is not yet completed, but it has been published in its present stage along with the results of the kiln experiments in a series of newsletters issued during the year.

To study the subject of "collapse" of Queensland timbers, the Department has constructed a steaming-chamber at Newstead, but the building was not completed until late in June. In the Southern States the practice of reconditioning "collapsed" and otherwise degrade stock has been widely adopted and has made possible the successful utilisation of timbers which previously had been unprofitable to handle. Queensland timbers are generally not so prone to collapse as are Southern timbers, but evidence has been established that such timbers as brush box and silky oak benefit considerably by a reconditioning treatment.

Some attention has been given to the subject of veneer drying. On account of the high initial cost of mechanical driers, Queensland has developed the tunnel kiln and the Council of Scientific and Industrial Research type of kiln. These are, however, susceptible to improvement and the Council for Scientific and Industrial Research plans to undertake further tests.

An air-seasoning study of veneer revealed that sheets tend to dry very rapidly down to 15 per cent. moisture content (in twenty-four hours), but thereafter pick up moisture after sundown. Further observations will be made on this subject in the new year.

Utilisation—

Considerable progress was made during the year in extending our knowledge of Queensland woods and increasing the number of specific purposes for which they can be satisfactorily used.

In reply to numerous inquiries, Queensland Forest Service recommendations for timbers best suited for a large number of purposes were supplied, and information covering the sources of supply and particular values of many indigenous woods was given.

Plywood Research.—In the manufacture of plywood one of the most important phases is gluing and pressing. The industry has been very active in its endeavours to secure improvement in this direction, and with the appointment of a chemist to the staff of the Plywood and Veneer Board a noticeable improvement has already been effected. With a view to facilitating examination and to investigating the basic principles of gluing and pressing, the Department has commenced the construction of a plywood research laboratory

at Newstead. The equipment will include glue mixers, hydraulic press, clamps, a conditioning chamber, and tension testing machine. The new building should be erected and equipped early in the new year. The work will be under the direction of the Department in full co-operation with the Plywood and Veneer Board, which has made a substantial financial contribution to the cost of the plant.

North Queensland Utilization Survey.—A special survey of the qualities and uses of North Queensland timbers was made, and new and interesting data were secured for over 150 different species. To further the use of the more abundant Northern woods, the relative values of each of sixty-one species with regard to durability, strength, and hardness were listed.

A revised list of North Queensland timbers suitable for building purposes was also drawn up and the best positions for the use of each timber were indicated. The opportunity was also taken to secure information in the fields of seasoning and preservation.

Grading Studies and Timber Specifications.—In view of the vital importance to the timber industry of the use of timber grades and specifications based both on the average quality yielded by each timber and on the requirements of the woodworking trades, close attention was given to work in this field. The Forest Service has been represented at all meetings of the Standards Association of Australia Timber Sub-Committee, and excellent progress has been made.

A complete specification for milled flooring, milled lining, and milled weatherboards, for eucalypt and brush timbers and hoop and bunya pine has been arrived at.

Specifications for rough sawn hoop and bunya pine, door stock and doors, and plywoods of Queensland timbers are also nearing completion.

The suitability of the specification for cypress pine adopted by the New South Wales Sub-Committee is now being investigated for the Queensland product.

Steady progress is being made towards the standardisation of trade names for commercial timbers.

Tool Handles.—Extensive service tests on Bennett's Ash (*Flindersia Bennettiana*) proved that this timber is of considerable value for axe and long hammer handles.

Mechanical tests carried out by the Division of Forest Products of the Council for Scientific and Industrial Research on a limited number of typical specimens of Queensland spotted gum and yellowwood strongly supported the use of the former wood for axehandles and pickhandles, and the latter for shovel and rake handles.

Arrangements were made to have timber from small-size gidgee (*Acacia cambagei*) logs tested for axehandles under Forest Service field conditions.

Sporting Goods.—Spotted gum (*Euc. maculata*), crow's ash (*Flindersia australis*), orange boxwood (*Celastrus dispermus*), and satinay (*Syncarpia hillii*) are now in demand for the manufacture of croquet mallets, white handle-

wood (*Pseudomorus brunoniana*), is now giving good service in locally manufactured lacrosse racquets, and yellowwood (*Flindersia oxleyana*) proved to be satisfactory for baseball bats.

Several Queensland timbers have been found suitable for the manufacture of skis. Results of recent tests on timber supplied by the Queensland Forest Service showed that spotted gum and hickory ash (*Flindersia ifflaiana*) are suitable for skis, while Queensland Yellowwood is now in demand for ski manufacture in Victoria. Red tulip oak (*Tarrietia peralata*), from North Queensland, also gave encouraging results, and samples of this timber, with yellowwood, have been sent to Canada for manufacture into laminated skis. Rose gum (*Euc. grandis*) is also under test.

Oar Manufacture.—Silver ash (*Flindersia pubescens*) oars are now manufactured on a large scale in Brisbane and supplies are shipped more than a thousand miles from the place of origin. Silver quandong (*Elaeocarpus grandis*) is favoured for the largest oars on account of its lightness. Recent experiments on rose gum (*Euc. grandis*) has shown that this timber is excellent for oars, being light, strong, and resilient.

Ship and Boat Building.—Decking of silver ash is under service tests on H.M.A. sloop "Yarra." For the larger pleasure yachts and fishing boats, seasoned turpentine (*Syngcarpia laurifolia*) has given excellent results for underwater planking, being strong, hard, and highly resistant to shipworm attack.

Fruit Cases.—The rapidly expanding fruit industry of Queensland now requires 33½ million superficial (face) feet of timber for cases and crates to market its products. In the past hoop pine has been the principal timber used, but in recent years the softer woods of the brush forests, in addition to large quantities of rose gum (*Euc. grandis*) and blackbutt (*Euc. pilularis*) have been used. Recent experiments with banana cases show that white gum (*Euc. micrantha*) from the sounder trees can be used. In general the harder timbers give best results for ends, but it is apparent that, with the best methods of nailing and construction, the lighter hardwoods can be much more generally used for cases as is done in the Southern States and Western Australia.

Timber Technology and Botany—

The usual service to the timber industry of receiving wood samples for identification and report on their qualities and uses was maintained during the year, and the facilities provided were freely used by timber merchants, engineers, architects, builders, and owners of forest lands.

In all, 123 samples, representing 66 native species and 2 exotics, were received, of which 34 came from officers of Government Departments interested in timber construction. The two exotics were redwood (*Sequoia sempervirens*) from California, U.S.A., and padouk (*Pterocarpus dalbergioides*) from India.

The Sub-Department of Forestry again desires to express its appreciation of the great assistance rendered by the Government Botanist (Mr. C. T. White, F.L.S.) and his staff in botanical matters. A large number of botanical specimens were identified for the purpose of checking the identity of wood samples forwarded to the Council for Scientific and Industrial Research for research purposes, and to extend the knowledge of Queensland trees and their distribution.

Forest Products other than Timber—

Among the more interesting subjects was the research into Queensland essential oils, in which work is being carried out by the Queensland University into the oil of the leaves of the broad leafed teatree (*Melaleuca leucadendron* var. *viridiflora*), and by Technological Museum into the wood oil of the sandal box (*Eremophila mitchelli*). The necessary supplies of material were made available by the Department, and it is hoped that as a result of the research work in progress a definite market will be found for these products.

In an endeavour to lower the cost of collection of the leaves of the lemon scented gum (*Euc. citriodora*) coppicing experiments are being carried out.

The results to date indicate that low cutting of stems up to 2 feet girth in the late spring is attended by good coppice growth, and that subsequent recutting should maintain the maximum height of the coppice stems at about 5 feet. The most rapid recovery of leafage is assured by harvesting with the minimum injury to the supporting branches—i.e., the main branches should be trimmed rather than lopped.

Preservation—

This field is a wide one and our work therefore has to be on a limited scale.

The work on hand includes a study of the prevention and eradication of powder post (*Lyctus*) borer, furniture borer (*Calymmaderus*), and marine borers. In addition, exposure tests against wood-destroying fungi and termites in fence posts, poles, and houseblocks have been undertaken.

Marine Borer Research.

Work on this problem, in co-operation with the Australian Museum and the Sydney Harbour Trust, was continued during the year at the control stations in the Brisbane River and Moreton Bay. At each station timber test pieces, both untreated and protected by preservatives, are under close observation.

Considerable new information regarding the attacks of marine borers on timber in North Queensland was secured during the recent Utilisation Survey, and through the active co-operation of the local Harbour Boards and the Queensland Railway Department new timber-testing and marine borer biological control stations have been established at Cairns, Townsville, Bundaberg, and the Herbert River. By this means the relative values of borer-resistant timbers, and the species of borers working in Northern ports, will be definitely established.

To further the use of Queensland piling timbers in Sydney and Melbourne, test pieces have been forwarded for immersion in Port Jackson and Port Phillip.

With the exception of recent investigations in North Queensland waters, and in the timber preservation field at Brisbane, which are not yet complete, the principal results of the marine borer research were ready for publication early in the new financial year in an official bulletin entitled "Destruction of Timber by Marine Borers in the Port of Brisbane."

Powder Post (Lyctus) Borer.

This borer has been the subject of many inquiries during the year, and its prevalence indicates that a greater amount of study is warranted. Two avenues of investigation are at present receiving attention, as possible methods for rendering the wood unattractive to the beetle:—

- (a) To dispose of or render unattractive the food materials in the sapwood;
- (b) To introduce into the susceptible wood materials poisonous to the lyctus larvæ.

Experimental work on series (a) is in hand with investigations into the starch content of spotted gum (*Eucalyptus maculata*) in the log and the standing tree.

In the investigation of (b) arrangements are being made for the construction of a semi-commercial open tank plant in which lyctus-susceptible timbers will receive treatment.

Experiments have shown that a single thorough brush treatment of lyctus-infested red tulip oak with creosote oil, creosote and kerosene, or kerosene and paradichlorbenzene is only partially effective as a control in the treatment of 1-inch boards—repeated treatments are essential. The experiments are being continued on a small scale to determine whether such treated material is liable to reinfestation.

Furniture Borer (Calymmaderus incisus).

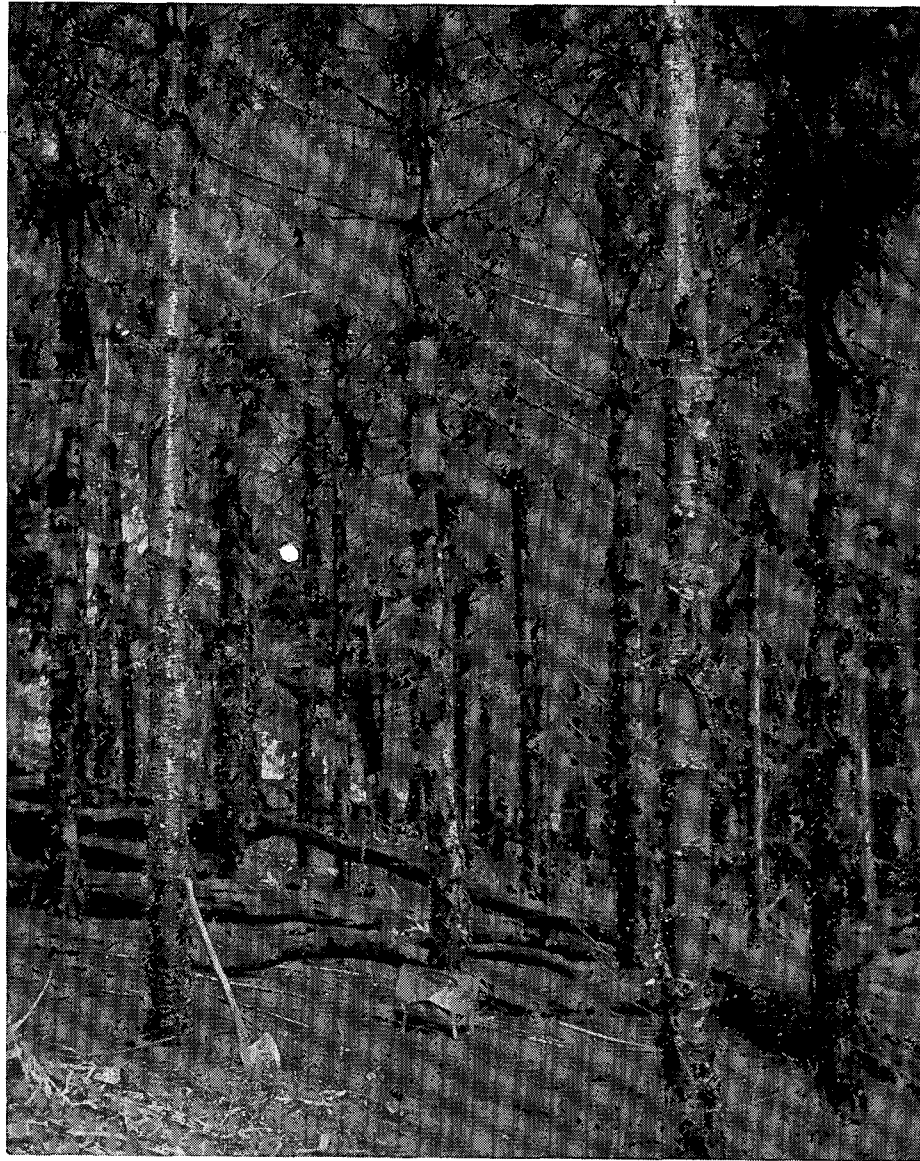
Complaints regarding the activity in hoop pine of the furniture borer were again numerous and the problem is now the subject of an intensive study. A leaflet giving the latest advice regarding habits and control is shortly to be issued.

The activities of the beetle have been reported from Toowoomba and Tambourine, while in the coastal towns of Maryborough, Caloundra, and Sandgate the damage occasioned in old residences is very serious.

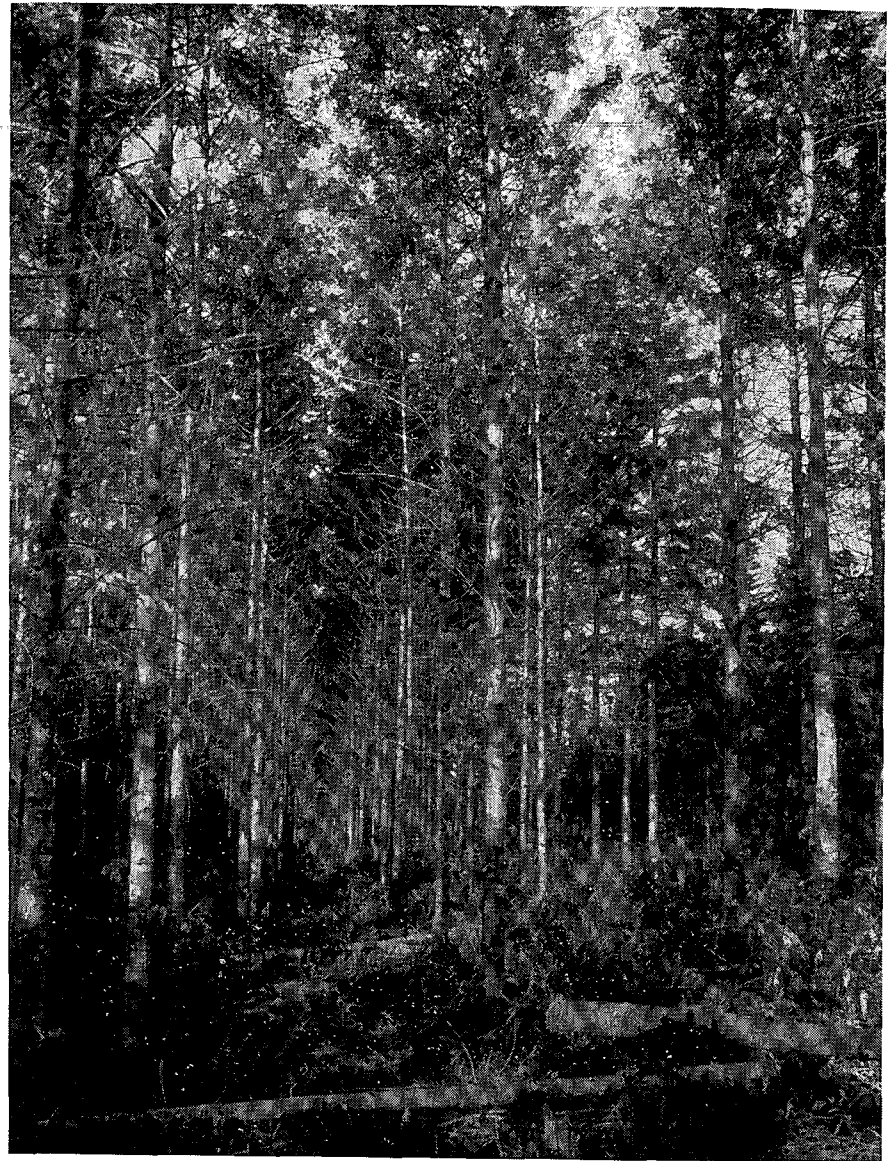
In addition to the work above recorded, service tests on treated sleepers (blackbutt and rose gum), wharf decking (turpentine and brush box), bridge decking (blackbutt), house stumps (brush box, ironbark, blackbutt, spotted gum, rose gum), and fence posts have been laid down. It is too early yet to give a clear indication of the values of the various treatments, but it can safely be said that creosote properly applied has given very satisfactory results.

Acknowledgment—

The task of answering the varied and numerous inquiries regarding the forest products of Queensland is considerably lightened by our association with other institutions, principally the Division of Forest Products of the Council for Scientific and Industrial Research of Melbourne, while special mention must also be made of the assistance given by the Technological Museum, Sydney, the Government Botanist, Brisbane, the Government Analyst, Brisbane, the Queensland Department of Agriculture and Stock, and the University of Queensland.



Hoop Pine (*Arancaria cunninghamii*) plantation. S.F.R. 194, Barron. Age, 9 years. Pruned at 8 years.
[Forest Service Photo.]



Southern Silky Oak (*Grevillea robusta*). Age, 10 years. Lightly thinned at 10 years.
S.F.R. 283, Colinton

2,364 acres of forest plantations were established during 1935-36. Total area planted in the State is 15,416 acres. [Photo. by J. A. Lunn, Survey Office.]

SILVICULTURE AND MANAGEMENT.

General—

Reforestation in 1935-36 has attained a new series of record figures. Increased appropriations have speeded on the work of bringing Queensland's forest estate into greater productivity. The total appropriation was expended on projected works. A comparison with the previously record figures of 1934-35 is given below, which will illustrate the progress made:—

	1934-35	1935-36.
Total funds expended on reforestation	£83,307	£114,311 4s.
Area planted during year (acres)	1,973	2,364.1
Area planted during season (acres)	2,302	2,458.7
Area of hardwood and cypress pine forest intensively treated (acres)	36,478	40,281
Firelines constructed (miles)	241	650
Firelines maintained (miles)	613	750

The two figures given for plantations are caused by the carrying-over of a minor part of the plantings after the 30th June. In all, 1,282 acres were planted with the native hoop pine, which is also a record acreage for this species for any one year.

The full significance of this progress may be better understood when it is realised that, except for a proportion of the fireline construction, this work is one of bringing back into productivity areas which have been cut over in some cases many years previously. Such areas, depleted of their virgin timber stands, are generally in very poor silvicultural condition and, while carrying large numbers of defective trees unsuitable for any purpose other than fuel wood, are growing very little timber capable of commercial use. Nor is this gap between exploitation of natural stands and intensive silvicultural treatment bridged as yet.

It has been greatly decreased while the increased appropriations have also made it possible to expand largely a field organisation capable of work on a uniformly satisfactory standard.

Advance in silvicultural technique in the treatment of hardwood and cypress pine stands was crystallised during the year in the circularisation of comprehensive rules for the silvicultural treatment of such forests, and it is possible to report that these rules are giving excellent results applied in the forests. Likewise, the standardised plantation technique previously reported withstood the highly unfavourable climatic conditions of the last planting season in November-December, and well-stocked, healthily growing plantations are the rule.

In the field of forest protection much work has been done. The year under report proved to be one of the most severe fire seasons experienced, fires being prevalent until well after Christmas. The major fires were those which invaded the reserves after gathering intensity on adjoining alienated forest and grass lands. Of the internal fires dealt with, no less than 27 were reported to have been acts of incendiarism, with a further 19 fires ascribed to carelessness on the part of individuals. In all, 115 fires were reported and suppressed.

The fire protection system of patrol, lookouts, and firelines on intensively treated areas proved satisfactory.

On one reserve, fires swept up to all but two out of the 24 miles of external firebreaks, and only on one occasion was a fire allowed to cross the break, when 50 acres only were burned over before the fire was suppressed. In other cases, fires which crossed the boundaries of reserves were held by the splendid efforts of all ranks generally on the breaks constructed around areas intensively treated.

It is unfortunate that the coming fire season gives promise of being even more severe.

The establishment of lookouts on high points, giving comprehensive observation of the areas under control, has proved very beneficial. In several instances fires have been detected before entering the reserves, and have been checked on the boundaries with no damage at all to the State forests. These fires, moreover, would not have been detected otherwise until considerable areas were burned over. Such systems are justified only on large operations, and will be both improved and extended in the coming year. As a means of communication between lookout and working gangs ultra-high frequency radio transceivers are now under trial, and give promise of noteworthy efficiency.

Research work into hoop pine plantation technique, and pathological and entomological problems has continued to produce beneficial results, and have been extended to cover pruning, which is now being carried out extensively.

During the year, it was also possible to allocate full-time trained staff for the expansion of research into the many problems surrounding the optimum growing conditions and regeneration of the valuable hardwood and cypress pine forest types.

Six reserves were brought under intensive forest treatment during 1935-36, including the establishment of a hoop pine nursery at Jimna, while the nursery, near Nanango, was also relocated in order to keep pace with operations at that centre.

A beginning was made in the correlation of mill log values with size and defect present in logs. To this end two studies were carried out in saw-mills on the North Coast with the generous co-operation of the owners. Although valuable information has been secured, further data are required to complete this study.

The conversion of grazing tenures to Forest Grazing Leases proceeded during the year, and it may be reported that practically full utilisation of the incidental forest grazing values is being made. In most cases, a pleasing measure of co-operation between lessees and the Department in the dual objectives of timber production and incidental grazing has been reported.

The work of the youths employed under the joint State-Commonwealth Aid to Forestry Scheme has remained at the highly satisfactory level reported last year. Several of these youths have been drafted to other work for further training, while efficient service is being given by all.

Plantations—

Planting and Tending.—Marked low rainfall in spring and early summer following upon the previous dry six months was a worrying feature of the year, and constituted a severe trial of the clean tending-early planting technique. Coupled with this was the almost entire absence in Southern Queensland of the usual south-easterly rains experienced in January-March.

Though some districts approximated average falls these were chiefly occasioned by heavy storm rains, and many others received far below average.

On the other hand, in North Queensland, while July-December falls totalled 14 inches, the following six months experienced 41 inches distributed over 100 wet days.

Consistently high temperatures were, however, recorded in all districts, maxima of over 110 deg. being not uncommon.

Thus conditions, following the abnormally dry six months of the previous year, were not only unfavourable to establishment success and tree growth, but also resulted in an almost unrelieved fire season of eighteen months' duration.

Contrary to last year, however, practically all plantings projected for completion by the 30th June were completed. Good burns for planting purposes were the rule on all areas, and the result has been most marked in the cost of subsequent operations—logging-up, planting, and tending. This was particularly so in North Queensland, in spite of conditions so very favourable to weed growth.

The Department's thanks are extended to the Meteorological Bureau for the very valuable assistance given in selecting suitable burning-off days, which had a considerable effect on the obtaining of clean burns.

All hoop pine plantings were again completed by mid-January.

Suitable conditions occurred in July for the planting of the exotic areas held over from last year. This year's planting of the *Pinus* species, apart from those employed on frost patches of hoop pine sites, and planted at the same time, was possible in May and June, except in the case of *Pinus patula*, which is better suited by late planting—July and August in this case.

In spite of the severe conditions referred to, establishment from early-planted tubed stock have been very satisfactory; only in a few cases were percentages of under 95 per cent. establishment recorded, and these resulted from the use of large stock with inferior root systems. Much better results are secured from the use of small (8 in.-10 in.) well-rooted plants.

Some of the later (January-February) plantings of tubed eucalypt stock were not, however, so successful, and in one or two instances the proposed area had to be curtailed in order to provide refilling stock.

With the open root winter (1935) plantings of *Pinus caribæa* and *Pinus patula*, losses with the former never exceeded 15 per cent., but in the case of the latter the figure reached 50 per cent. This loss with *P. patula* was

referred to in last year's report, and the plantings with this species have been reduced at Passchendæle, pending further research along the lines referred to. Indications of good results have been secured from the plantings this year at both Passchendæle and Pechey.

Growth in the new hoop pine areas has not been up to that secured from the early plantings of previous years, but such was not anticipated in face of the dry conditions which have demonstrated this year to a most marked degree the great value of the planting tube in securing high establishment.

The area planted during the year, viz., 2,364 acres, represents the largest annual planting to date.

Details are given in Appendix "K," but the distribution of the plantings was:—

Working Plan Area.	AREA IN ACRES.						Total.
	Hoop Pine.	Kauri Pine.	Silky Oak.	Ironbark, Tallow-wood, and Blackbutt.	Pinus Species.	Other Species.	
Brisbane .. .. .	..	..	..	..	1	..	1
Brisbane Valley and Nanango	640	..	52	7	163	..	862
Mary Valley	450	5	..	..	13	5	473
Kilkivan	65	..	..	5	7	..	77
Many Peaks	64	..	..	..	25	..	89
Kilcoy .. .. .	..	..	..	57	..	..	57
North Queensland	63	49	..	..	1	8	121
North Coast .. .. .	..	..	..	223	373	1	596
Warwick .. .. .	..	..	..	..	88	..	88
Totals	1,282	54	52	292	671	14	2,364

Features of this table are—

- (1) The total planting exceeds the previous highest annual planting by 304 acres.
- (2) As anticipated in last year's report the area of the indigenous hoop pine has been considerably increased, the figure this year being 245 acres greater than the previous largest planting of this softwood.

Two reserves—State Forest Reserve 611 (near Beerburrum) and State Forest Reserve 893 (between Dayboro and Woodford)—entered into the planting programme for the first time this year, but the increase is due also to nursery expansions referred to in previous reports.

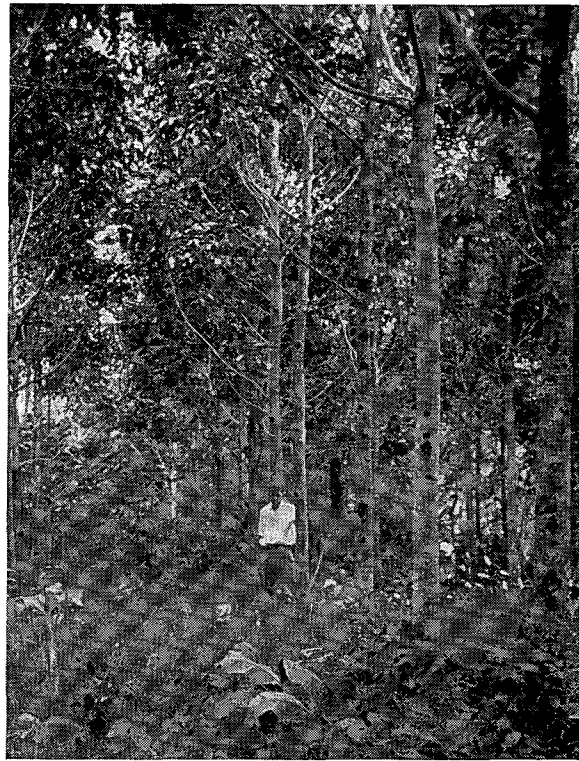
Several new nurseries will enter into the plant output in the forthcoming year.

The total area of satisfactorily established plantations now exceeds 15,400 acres.

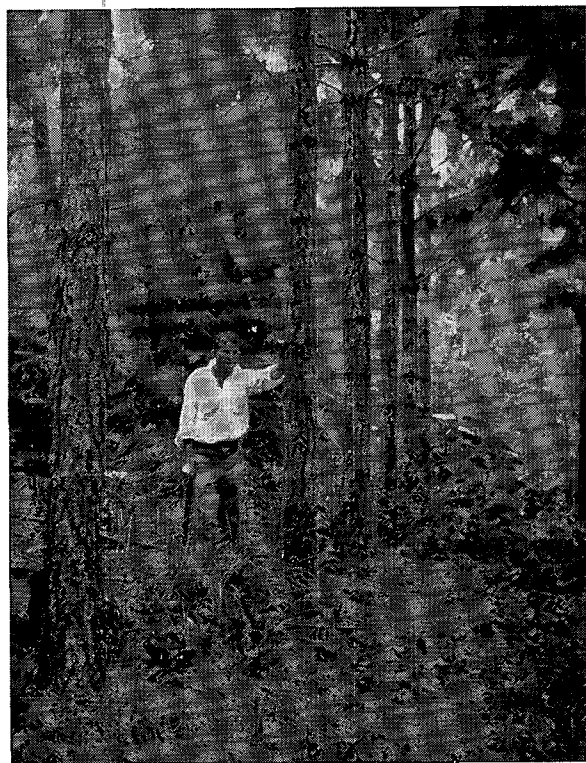
A further feature of the planting for the year was the completion of the planting of areas leased for banana-growing in the Mary Valley district except for one small area to be planted next year.



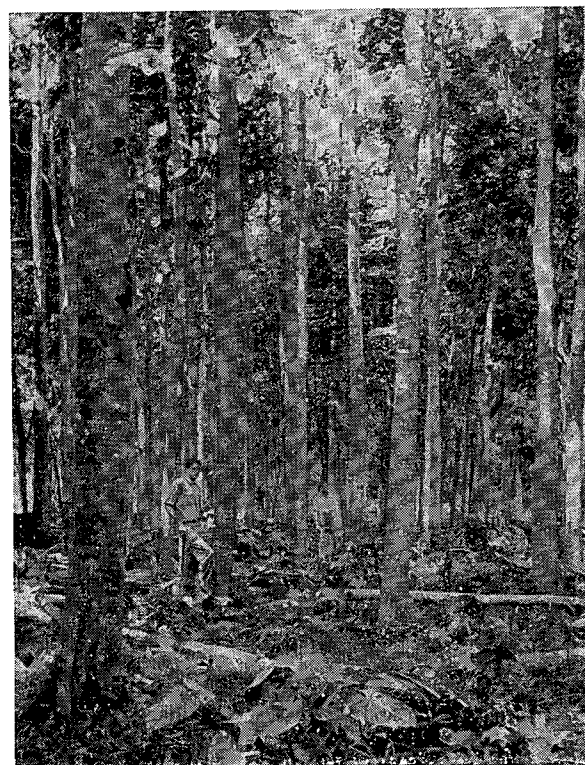
Kauri Pine (*Agathis palmerstoni*) plantation on S.F.R. 191, Barron. Age, 20 years.



Maple (*Flindersia brayleyana*) on S.F.R. 310, Gadgarra. Age, 7 years.



Slash Pine (*Pinus caribaea*) plantation on S.F.R. 194, Barron. Age, 9 years. Pruned at 8 years.



Red Cedar (*Cedrela australis*) plantation on S.F.R. 191, Barron. Age, 22 years.

Whilst Hoop pine is the main species used in Queensland plantations, other valuable softwoods and cabinetwoods are also given attention.

[Forest Service Photos.]

For years these small areas leased for banana production have been a problem, since, owing to their small and scattered nature, it was impracticable to plant them as soon as they went out of production normally or the lessee walked out. This latter was a serious complication, as it meant that areas in one group frequently went out of production irregularly. In consequence many of these leases became massed with weeds before it was possible to include them in a planting area, and constituted a serious and costly tending problem. It is with relief that the end of these leases is in sight, practically all having now been converted to satisfactory plantation.

On several areas in the North Coast and Kilcoy districts further banana lease areas were planted with grey ironbark (*E. paniculata*), while some 170 acres of abandoned tobacco farms at Beerburrum were converted to blackbutt and tallowwood (*Eucs. pilularis* and *microcorys*) plantations.

As pointed out above the dry weather conditions resulted in cheap operations. This is particularly so in the case of first-year tendings. The lack of rains following burns is a factor that has influenced the weed crop. It is contended that the weeds germinated with slight showers, to be burned off almost immediately by the excessive heat.

In North Queensland (particularly at R. 310) tending results and costs were the best ever secured, due partly to the good burn, and partly to rigid adherence for the first time to the tending practices found effective in South Queensland.

Routine thinning and pruning were initiated in the older stands during the year, operations in this direction being carried out in the Brisbane Valley, Mary Valley, North Queensland, and Brisbane districts. Tentative prescriptions have been applied, and give a good distribution of pruned stems and simplify the initial thinning operations. Concurrent investigation aims at later improvement of these prescriptions.

Nurseries—

At the close of the year eighteen (18) permanent nurseries were in production and carrying approximately 3,500,000 plants. In addition, four (4) temporary nurseries for the production of hardwood planting stock were established or maintained.

Two high-shade hoop pine nurseries were added during the year, one at Jimna, on State Forest Reserve 137, Yabba; while the second will replace the previously unsatisfactory one on State Forest Reserve 299, Avoca, near Nanango.

Two temporary nurseries were established on State Forest Reserve 893, Byron.

The output for the year totalled approximately 1,600,000 trees.

The remarkable rapid growth response to the addition of animal manures in the Mary Valley nurseries was probably the most marked nursery feature of the year, plants reaching an average height of 18 in.-20 in. at eighteen months from seed sowing. The problem of securing plants large

enough for planting at two years is now substituted by one of determining the correct combination of sowing and manuring to produce the best type of stock at the commencement of the planting season.

Trouble was experienced with a serious attack by Thrips on kauri pine in the Imbil nursery, but plants recovered original vigour rapidly after spraying with Katakilla. Practically 100 per cent. of the plants were seriously affected. Spraying at weekly intervals exercised almost full control. Plants were in full vigour about one month after first spraying.

The trouble with kauri pine at State Forest Reserve 310 nursery, in North Queensland, which for some years had been unexplained, has now been determined as thrip damage, and will be controlled in similar manner.

For some years past difficulty has been experienced in the handling of large hoop pine stock in the Brisbane Valley nurseries. A partial explanation of this was afforded by the identification of a root rot, *Rhizopogon* species in several of the nurseries. In the nursery on State Forest Reserve 257 (near Blackbutt) the disease was very prevalent, and treatment of the beds with cheshunt mixture was considered advisable. This has resulted in effective control of the rot at that centre. Greater care is also being exercised in transplanting operations in the Brisbane Valley nurseries.

Seed Collection.—Practically no hoop pine seed crop has been experienced since 1933, the collection in December, 1935, totalling 40 lb. only. Contrary to expectations, the seed from this small collection was of good quality. In all previous cases, seed collected in years of scanty seedfall had been almost entirely infertile. An exceptionally heavy crop can be anticipated in the coming seedfall.

Every effort was made towards a further southern kauri pine collection, but the crop was poor, 7 lb. only resulting.

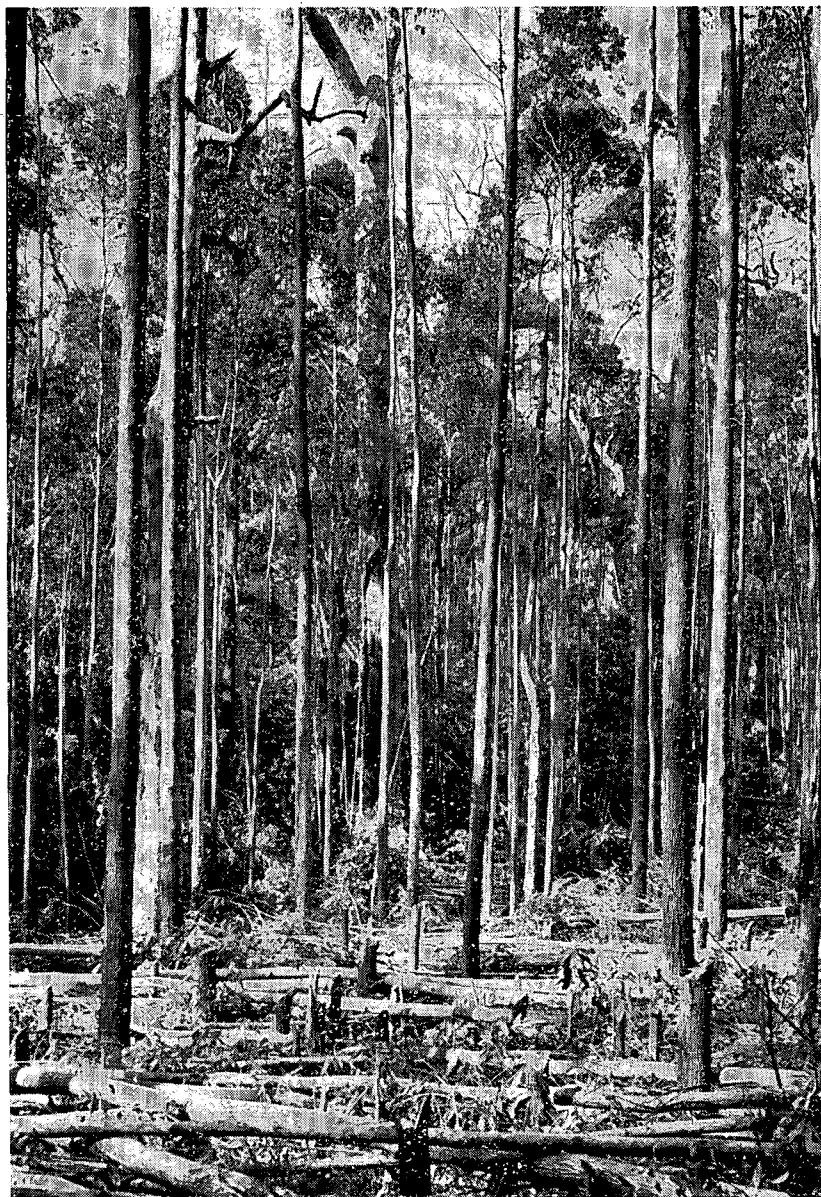
Fairly large collections of seed of grey ironbark (*E. paniculata*) for general use on banana blocks in hardwood areas, and blackbutt (*E. pilularis*) for the planting of the tobacco farms referred to previously, were made.

Minor collections were made as necessary to fulfil the Department's needs, and to provide seed required by other States, countries, and private individuals.

Seed ledgers and nursery and field recording systems were improved and permit the tracing of any plantation area back to the particular seed batch and its history.

School Forestry Plots.—The number of plots established or in process of establishment at the close of the year was fifty-nine—an increase of twenty during the year.

That considerable keenness is being shown by the project clubs in handling these plots is well exhibited by the well-directed and intelligent enquiries that are being made from time to time. Further evidence is shown by the "Forestry Week," held at one school when the whole of one week



Blackbutt (*Eucalyptus pilularis*). Natural regeneration about 12 years old. Thinned at 12 years under the Juvenile Employment Scheme. Mapleton State Forest.
[Photo. "Telegraph" Newspaper Co. Ltd.]



Cypress Pine (*Callitris glauca*). Natural regeneration on S.F.R. 16, Malcolm (Barakula). Thinned, 1932.
[Photo. by J. A. Lunn, Survey Office.]

Natural regeneration and thinning operations have greatly increased the growth and improved the stand in our hardwood and cypress pine forests.

was devoted to forestry—Arithmetic, in the form of elementary forest mensuration, reading from forestry literature, and so on, together with addresses by officers of the Department.

In addition, visits to Imbil and Beerwah were made by project club instructors of the Department of Public Instruction.

Private Planting.—The concession rate for supply of trees referred to in last year's report has been followed by increased demand. Several orders for over a thousand trees were met, and numerous enquiries for supply have been received.

Natural Forests—

Increased funds enabled further considerable progress to be made in the handling of the natural hardwood and cypress pine forests.

Operations were initiated on five new forests—

- R. 303, Doongul (Maryborough district—spotted gum and ironbark);
- R. 173, &c., Durundur (Woodford district—blackbutt—ironbark);
- R. 48, Umbercollie (Goondiwindi district—cypress pine);
- R. 611, Beerwah (Beerburum district—blackbutt);
- R. 117, Apsley (Clermont district—narrow leaf ironbark),

but in the case of the first three work was confined to fireline construction.

The total area treated for the year was 40,281 acres (3,803 acres in excess of the best previous annual operation) increasing the total area subjected to at least one treatment to 178,429 acres.

Details are shown in Appendix "L."

Briefly summarised this shows:—

Working Plan Area.	AREA TREATED.	
	Acres.	Type of Forest.
Brisbane	2,012	Spotted Gum, Ironbark, Blackbutt.
Brisbane Valley (R. 527)	1,600	Ironbark, Blackbutt.
Bundaberg	1,097	Hoop Pine.
	2,421	Spotted Gum, Ironbark.
Clermont	2,825	Narrow Leaf Ironbark.
Dalby	1,060	Spotted Gum.
	9,068	Cypress Pine (with or without Narrow Leaf Ironbark).
Fraser Island	1,675	Blackbutt.
Inglewood	6,597	Cypress Pine (with or without Narrow Leaf Ironbark).
	3,605	Narrow Leaf Ironbark.
Kilkivan	984	Spotted Gum, Ironbark.
Maryborough	4,640	Spotted Gum, Ironbark.
North Coast	2,697	Blackbutt, Ironbark.
Total	40,281	

The issuance during the year of consolidated rules for the treatment of these forests and referred to previously has been of considerable value in this work, and best immediate treatments are being accorded in the one treatment with a minimum of error and waste effort.

A heavy seed fall of narrow leaf ironbark (*E. crebra*) occurred during February and March in the Inglewood district.

This was an unusual feature since this species appears to fruit very irregularly, and even then not heavily. Unfortunately, absence of rainfall was adverse to germination, and together with the extreme heat reduced the survival of any seedlings to a very low percentage.

The usual heavy seed crop of cypress pine was experienced, and though here also survival was low, no great difficulty is experienced with this species in stocking areas where required.

On Fraser Island a thinning was conducted in the stands regenerated under the Department's operations. The good seed crop provided further opportunity for regeneration treatment on inadequately stocked areas and the normal March burn has been followed by excellent regeneration. In this type (blackbutt) the success of the procedure of burning when a good seed crop is present during the month of March appears assured.

Silvicultural Research—

The scope of the research work of the Sub-Department was extended during the year by the provision of two full-time officers—one to attack the problems of the mixed hardwood stands of the coast, and the other those of the cypress pine and hardwood areas of Western Queensland. In addition, an Assistant Entomologist in the Department of Agriculture and Stock is available for full-time work on Forestry problems, and approximately one-half of his time is devoted to silvicultural work.

Good progress has been made in the Mary Valley, Brisbane Valley, and North Queensland areas towards the solution of many of the problems associated with our indigenous plantation trees, and the work at Beerwah provided further information on the correct silvicultural practices to be adopted with *Pinus taeda* and *P. caribaea* under Queensland conditions. At all of these centres the work was extended.

The older plantations are now reaching the stage where thinning and pruning are necessary if a high yield of good quality product is desired. This has been responsible for an alteration in the focus of the experimental work from establishment and early tending to thinning and pruning. Fortunately sufficient data is already available on the nursery practice and early treatment of plantations to render safe this process of concentration on the later procedures of thinning and pruning.

Much interesting information has already been secured, particularly concerning pruning procedures, but it is considered that the results can best take the form of a short Departmental publication, and discussion is omitted from this report.

In the coastal hardwood type research work of a detailed character was commenced during the year. The matter of correct silvical procedure in thinning, coppicing, and ringbarking, which are of prime importance to the man on the job, are receiving greatest attention. In addition, the observations

on the flowering and fruiting of the hardwood species are being extended. The variation of the results secured from the conventional beliefs on seedfall renders this later procedure the more necessary.

The major results in the fields of Pathology and Entomology are dealt with in further detail under the heading of Forest Protection. Of outstanding interest are the strong indications of a definite experimental demonstration of the lack of surface litter and humus as the causal factor of the "fused needle" disease of exotic pine trees previously reported, and the early detection and investigation of the activities of the hoop pine bark weevil (*Aesiotes notabilis*) in the winter months, during which pruning and thinning operations are carried out.

Considerable success has also been achieved in the general research into the *mychorriza* of pine trees used in the plantation work in Queensland. The development of one associated fungus, viz., *Rhizopogon luteolus*, has been carried through for the first time from spore to fruiting body in pure culture and on *Pinus taeda* seedling roots growing in a sterile soil medium.

The planting of hoop pine open root has proved a difficult problem for some years past, but it is pleasing to note that research work in the year under report has given promising indications in the Mary Valley only of successful planting without the more costly resource to the planting tube, if good quality stock are set out in the field immediately after the clearing burns.

However, in the Brisbane Valley, the results given again proved that such a method of planting would be very poor economy indeed. This line of work will be closely followed up.

Forest Protection—

Fire Outbreaks.—As forecast in last year's report the fire season this year was a particularly severe one. With the exception of a few periods of short duration only, conditions suitable for fire existed throughout the whole twelve months.

Fires were experienced in almost all districts, and in many cases on reserves under treatment.

It is satisfactory to be able to report however, that except for a few acres destroyed when a burning-off fire swept through a break, no loss in plantations was experienced.

On the hardwood forests of the Maryborough district and the hardwood-cypress pine areas on the Dalby and Inglewood districts the fires were most numerous and extensive. Here again, though several thousands of acres were burnt over, protective measures have been effective in large measure in keeping the loss of treated area down to a small figure.

Further progress was made in the protective systems, chiefly by the location of natural lookout points each of which has been equipped with a hut, and linked up to reserve and district headquarters by telephone. Several others have been selected on which tower construction is proposed next year.

The construction of further cottages to permanently house employees on reserves under treatment, and the installation of telephones was a further valuable step, while the adaptation of radio is under consideration.

Numerous fire huts, housing a tank and fire tools, were constructed along firebreaks distant from headquarters.

Fireline Works.—In anticipation of the early severe fire season all constructed breaks were put into good condition early in the year. Grass growth, prompted by storm rains, however necessitated a further maintenance operation in several instances, even after January, when the risk of fire is normally expected to be low.

Particular attention was paid to break construction in the Dalby and Inglewood districts, while on several Maryborough areas firebreak design has been completed by a survey party.

Details of the fireline work carried out for the year are as follows:—

Working Plan Area.	AMOUNT AND TYPE OF WORK CARRIED OUT (MILES).	
	Fireline Construction	Fireline Maintenance.
	Miles.	Miles.
Brisbane	Clearing and burning .. 16.7	Chipping and burning .. 24.0
Brisbane Valley ..	Stump, plough, and grade .. 21.0	Plough and grade .. 25.5
Bundaberg .. ..	.. .. 46.0	.. .. 18.0
Dalby	Cut and stack 246.0	Suckering 23.0
	Burning 117.0	Opening old roads .. 33.0
Fraser Island ..	Clearing 20.5	Burning and ploughing .. 2.5
Inglewood	Burning 26.0	Burning 212.0
	Falling and stack 68.0	Ploughing 199.0
Kilkivan	Fall and clear 6.0	Brushing and chipping .. 5.0
Many Peaks	Clearing 5	.. ..
Maryborough ..	.. .. 54.0	.. .. 28.5
Mary Valley ..	Clear, stump, and plough .. 8.0	Ploughing 22.0
	Chip 1.0	.. ..
North Coast ..	Clearing and burning .. 15.2	Ploughing, grading, and burning .. 138.0
	.. ..	Brushing and chipping .. 1.0
North Queensland	.. ..	Ploughing 9.0
Warwick	Stump and plough .. 3.0	Chipping 4.0
	Fall 1.2	Suckering 5.5
Totals	650.1	750.0

The various types of breaks adopted have been discussed in previous reports.

Modifications introduced during the year included the substitution of a tractor in place of horses for ploughing in the Inglewood district. This has resulted in reduced costs and a considerable speeding-up of the work.

The introduction of "green" breaks on certain suitable hardwood areas was also a new step. In this type, belts of forest two to three chains wide in suitable locations are cleared of all dead trees and ground debris, a ploughed or chipped line on each side of the break, enabling early burning-off each year as required.

Animals—

Experiments are in hand with a view to the elimination of costly netting fence protection against wallaby attack on plantations, particularly in the Brisbane Valley district. Pending a less costly but equally effective method of protection fencing is being persisted with.

In the Brisbane Valley 780 chains of such fence were erected, while at Kalpowar, in the Many Peaks district, 105 chains were necessary.

Losses from these agents were low elsewhere, except on some of the hardwood plantation areas, where a nipping of the leading shoot slows down growth and spoils form.

At Passchendale, losses from rabbits continue in the new plantings, but the damage does not approach serious proportions.

Rat damage continues to be noticeable in hoop pine plantations, particularly two to four-year-old areas in the Mary Valley. Experiments are current on various methods of control, but to date have not given definite results. A number of different species of rats have been collected, and at present their identification is awaited.

Fortunately it is only over very limited sections of the plantations that damage from rats is serious, although there is widespread damage of a minor nature. The rats cause damage by chewing the bark from the roots and lower sections of the stem, and with plants up to 10 ft. high sometimes ringbark every root.

As a partial measure of control instructions have been issued that carpet snakes should not be killed on forest reserves where rat damage is current.

Insects—

The investigation of cockchafers which have been causing loss in hoop pine plantings on red soils in the Yarraman district was furthered during the year by a study of life history, while identification has established that seven distinct species are associated with the losses.

Thrip attack on kauri pine seedlings in the nurseries has been referred to previously.

The discovery of the prevalence of active hoop pine bark weevil (*Aesiotes notabilis*) in the winter months in thinned and pruned hoop pine stands has caused some alarm. It was previously thought that this beetle was inactive during the winter months, and this factor had entered into consideration in deciding on winter prunings.

To date no evidence of attack on saw-pruned stems has been secured, but the beetles are very prevalent on ground debris of thinned stems and pruned branches.

Investigations are proceeding, and experiments in control measures by various paintings and sprayings of the pruned branch stubs have been carried out.

Pathological—

Investigations relating to "fused needle" were furthered, the most interesting feature being the indication that this disease is caused by deficiencies in the humus layer and in ground litter covering.

It is significant that the provision of a heavy ground litter cover in experimental work has resulted in a large percentage of recovery.

Generally there has been an improvement in the position in regard to this disease, both in incidence and in recovery of trees.

With *mycorrhiza* a series of investigations at Yarraman were completed, and the results successfully applied in routine practice. This experimental work had shown that by increasing the acidity of the nursery beds with sulphur it was possible to secure best *mycorrhizal* and consequent *P. caribæa* seedling development. Satisfactory production of planting stock of this species at that nursery had hitherto not been secured.

A fungus—*Rhizopogon luteolus*—was found fruiting in *Pinus* plantations, and it was proved by isolation and pure culture studies that this was a *mycorrhiza* former. This fungus fruited in pure culture.

Except for a few isolated trees there was no outbreak of *Diplodia* dieback, as caused by *Diplodia natalensis*, at Beerwah.

Pinus radiata continues to be affected with *Diplodia pinea*, and diseased trees are being removed as they are found.

Other investigations covered hoop pine root rot, butt rots in North Queensland, damping-off, &c.

Constructional and Maintenance Works—

Ten cottages of standard design were erected on reserves under treatment, and on which the permanent housing of an employee proves such a valuable fire protection measure. Almost all have been linked up to District Headquarters by telephone. Incidental paddock and water facilities were provided to each, together with necessary feed and tool sheds, &c.

Telephones were also installed in each of three lookouts, the total erection of telephone line for the year exceeding thirty miles.

Two new high-shade hoop pine nurseries, complete with water supply reticulation, storage, and pumping units, were completed, while several extensions undertaken last year were completed.

Particular attention was paid to the cleaning-up of forest paddocks in the Mary Valley district, the result of which has been an immediate increase in rental values.

Many minor maintenance works were completed, and at the end of the year all buildings were in good order, and repair costs for the next few years should be low.

Expenditure and Labour—

The total expenditure on reforestation works for the year was £114,311 4s. (see appendix for details), which represents the largest annual expenditure to date, and exceeds by £31,004 4s. the previous highest amount.

Of this total £13,089 4s. was provided by the Commonwealth Government and subsidised on an equal basis from State Loan Funds.

Over 1,100 men have been provided with employment, while the number of youths engaged has been maintained at a fixed strength of almost 100.

Increasing funds with the consequent retaining of more and more men in permanent employment is having an improved effect on the class of work that the Department is securing from its employees. This is being evidenced further by cost reduction as men become more experienced.

The fine reports received last year regarding the work of the youths have been repeated this year. Several were selected during the year for more intensive training, while others have already received promotion and positions of authority.

FOREST SURVEYS.

Six fully-equipped survey camps operated during the financial year, whilst temporary small camps were organised to carry out required miscellaneous surveys.

The total expenditure for survey work amounted to £4,536 2s. 7d.

As a result, 10,280 acres were closely inspected; 58,369 acres were assessed; 56,848 acres were subjected to intensive contour and assessment survey; 10,301 acres were surveyed for pine plantations; and 137,995 acres were divided into compartments for management purposes.

Summary of mileage completed by all camps is given hereunder:—

	Miles.	Chains.
Compass and chain	631	63
Strip survey	579	45
Topo. levels	28	44
Track making	2	70
Exploratory	107	00

Atherton Working Plan Area—

Only one camp operated in North Queensland, operations being continued on Timber Reserve 675, parish of Grafton, and field work completed by the 29th December. In all, a total of 23,000 acres were dealt with by Class 2 survey during the financial year.

Camp was closed down until the 10th February, and a Class 2 survey of Timber Reserve 30, parishes of Garioch and Riflemead, in the vicinity of Mount Spurgeon, was commenced, and up to the end of the report period approximately 9,000 acres had been covered. During this period three weeks were lost owing to wet weather, and it became necessary to put off the camp staff on the 24th June, pending more favourable weather conditions.

Particulars of mileage are set out hereunder:—

Reserve.		Miles.	Chains.
R. 675	Compass and Chain	1	40
	Strip Survey	90	27
	Topo. Bdy.	7	09
	Exploratory	25	00
R. 30	Compass and Chain	12	13
	Strip Survey	49	00
	Pack Tracks	2	70
	Exploratory	15	00

Traverse for proposed road resumption was also effected through portions 35v and 69, parish of Grafton.

Bundaberg Working Plan Area—

Two camps operated during the greater part of the year in this district, one confining its operations to type and estimate of the hardwood areas on State Forest 80, Littabella and Tottenham, whilst a second camp was engaged on Class 3 survey on the southern section of State Forest 169, St. Agnes. The former, commencing its operations on 8th October, had completed the field work at Watalgan by the 19th March. Adjoining Reserves 175, 198, 49, 103, 188, and 214 were also dealt with, comprising a total area of 22,686 acres. The whole were divided into twenty-seven compartments, mostly by internal roads, involving 150 miles 14 chains of strip survey and 49 miles 35 chains of compass and chain traverse. This camp was then transferred to the Maryborough district (R. 62, St. Mary).

The second camp arrived at Morganville on the 25th October, and commenced a Class 3 compartment survey of the southern section of State Forest 169, St. Agnes. Up to the end of the report period approximately 6,311 acres had been divided into five logging areas and twenty-seven compartments completed in addition to strip survey.

Mileage was as follows:—

	Miles.	Chains.
Compass and Chain	36	60
Strip Survey	30	42
Topo. Levels	12	16
Exploratory	67	00

Maryborough Working Plan Area—

On the 25th March, the Bundaberg camp arrived at Tiaro and proceeded to carry out type, estimate, and compartment surveys on State Forests 62, 390, 505, 499, parish of St. Mary, together with an examination of freehold portions in that parish. In all, 22,851 acres were dealt with by Class 3 survey, and 5,619 acres examined and assessed on the freehold portions, involving 177 miles 50 chains of strip survey and 57 miles 26 chains of compass and chain traverse. Area was divided into thirty-six compartments. Work is now proceeding on State Forest 59, St. Mary. Road survey was also completed on Timber Reserve 533, Mungore.

Brisbane Valley Working Plan Area—

A two-party camp operated on district work throughout the financial year with the exception of a short period of absence on firebreak surveys at State Forest 137, Yabba. A total mileage of 52 miles 73 chains of compass and chain line was run, of which 28 miles 20 chains were firebreaks and the balance miscellaneous surveys. For details, see Appendix.

Brisbane Working Plan Area—

A Class 1 survey of the Deongwar reserves was effected covering 10,280 acres, and approximately 250 acres of scrub were estimated near the Sugarloaf (R. 528, Deongwar), involving 6 miles 46 chains of compass and chain traverse and 1½ mile of strip survey. Six miles of firebreaks were also run in this locality, field work terminating on 1st August.

From the 8th to 15th August Class 2 survey of State Forest 69, Bunya (1,575 acres), was effected, whilst 925 acres on State Forest 215, Redland, were similarly treated from 3rd September to the 18th September.

On the 8th October, camp transferred to the Bundaberg district (State Forest 80, Littabella and Tottenham).

Particulars of strip mileage are as follows:—

Reserve and Parish.	Miles.	Chains.
S.F. 69 Bunya	15	70
S.F. 215 Redland	12	08

Kilcoy Working Plan Area—

In November, survey of scrub firebreaks, nursery site, and pipe line was carried out on a section of State Forest 137, parish of Yabba, an area of 425 acres being surveyed for future plantations. Work was completed by the 13th December.

Kilkivan Working Plan Area—

Class 3 survey of Timber Reserve 220, parish of Kilkivan, was continued and completed by the 24th October, then leaving for the Bundaberg district (R. 169, St. Agnes). The balance of the reserve (5,000 acres) was covered, and, in addition, a firebreak survey over approximately 1,000 acres on Gap Creek was completed, mileage being as follows:—

	Miles. Chains.	
Compass and Chain	6	40
Strip Survey	25	44
Levels	8	23

A survey camp consisting of two New South Wales officers completed scrub firebreak surveys on parts of State Forests 82, Brooyar, and 242, Widgee, between their arrival on 24th March, 1936, and their departure on 10th June, 1936, assistance being given over the final fortnight by two juvenile employees. Compartment surveys, with features for fire-control organisation, were completed on R. 24, Charlestown, by local staff.

Miscellaneous surveys included the running of compartment boundaries at R. 220, Kilkivan, and R. 298, Gallangowan, for current planting and scrub falling, also road access into R. 67, Grongah, by local staff. Details of mileage and area covered are shown in Appendix.

Dalby Working Plan Area—

Compartment surveys were continued on the Yeulba Forests, a total area of 108,325 acres being subdivided during this report period. The following reserves were dealt with in addition to T.R. 60, Tehanning, last year:—S.F. 61, Gideon, Moraby, and Callitris, T.R. 58, Gideon, P.P.L. 278, Tehanning, S.F. 381, Tinowon, and S.F. 328, Amoolee, Yeulba, and Tinowon. One hundred and sixty-five compartments were laid out, involving 217 miles 76 chains of compass and chain traverse.

Twenty-seven miles of strip survey over an area of 18,000 acres were also carried out on P.P.L. 530, parish of Callitris. On the 30th January field work at Yeulba was completed, and camp was shifted to Timber Reserve 155, parishes of Marmadua and Durabilla, where an area of 24,670 acres was subdivided into twenty-nine compartments, a total of 55 miles 69 chains being run.

Camp closed down on the 4th March.

Mary Valley Working Plan Area—

A small camp operated during the financial year, concentrating on the marking of pine plantations for some years ahead. A considerable amount of work was also effected on the separation of planted species. In all 73 miles 49 chains were run, enclosing 2,770 acres of new plantations. For details, see Appendix.

ACKNOWLEDGMENT.

The Director of Forests desires to acknowledge the assistance received and valuable services rendered by the staff during the year. He also wishes to refer with regret to the loss occasioned the Sub-Department by the retirement at 31st December last of Mr. Inspector F. J. C. Twine, an officer whose knowledge of the forests and logging conditions throughout Queensland stands unrivalled, and whose other qualities made him an officer of the highest calibre.

V. GRENNING,

Director of Forests.

Appendices.

APPENDIX A.

Return of Timber, &c., Removed from Crown Lands for the Year ended 30th June, 1936.

Species.	Quantity.
MILLING TIMBERS—	
Hoop Pine Ply	8,017,913 super. ft.
Hoop and Bunya Pine—	
Logs	64,468,771 super. ft.
Tops	26,021,995 super. ft.
Kauri Pine	6,693,269 super. ft.
Cabinetwoods	12,993,043 super. ft.
Scrubwoods	3,040,736 super. ft.
Hardwoods	22,192,058 super. ft.
Cypress Pine	4,765,238 super. ft.
OTHER CLASSES—	
Sleepers	279,743 pieces
Sleeper Blocks	31,663 pieces
Headstocks, Transoms, and Crossings	651,551 super. ft.
	999 pieces
Girders, corbels, piles, and sills	122,494 lineal ft.
Poles	159,052 lineal ft.
House blocks	159,584 lineal ft.
Fencing material	9,456 lineal ft.
	116,534 pieces
Hewn and Bridge Timbers	240,153 super. ft.
	3,021 lineal feet
Mining Timber	149,031 lineal ft.
	60,151 pieces
Decking	81 pieces
Round timbers	51,766 lineal ft.
Fuel	47,728½ tons
Sandalwood	169 tons
Rosewood (Buddha)	79 tons 8 cwt.
Lawyer cane	28 tons 7 cwt.
Mangrove Bark	21 tons
Sand	990 cubic yards
Gravel	4,552 cubic yards
Freestone	4,202 cubic yards
Clay	45 cubic yards
Charcoal	2,129 bags
Mulga	3,277 lineal ft.

APPENDIX B.

Cut of Hoop and Bunya Pine—Year ended 30th June, 1936.

Working Plan Area.	Ply.	Logs.	Tops.	Total Cut.	1934-35 Cut.
	Super. Ft.	Super. Ft.	Super. Ft.	Super. Ft.	Super. Ft.
Brisbane	256,450	8,095,336	3,700,901	12,052,687	11,087,100
Brisbane Valley	3,784,197	20,598,141	12,636,706	37,019,004	35,033,834
Bundaberg	23,430	1,508,335	258,132	1,789,897	2,350,852
Gympie	148,599	2,520,973	578,142	3,247,714	894,891
Kilkivan	1,851,723	14,848,072	3,305,899	20,005,694	18,959,898
Many Peaks	382,810	1,796,647	1,002,427	3,181,884	2,934,590
Maryborough	285,945	2,029,615	687,840	3,003,400	3,433,532
Mary Valley	1,197,186	9,477,070	2,442,738	13,116,994	16,776,821
Warwick	87,573	3,303,174	1,243,826	4,634,573	3,979,623
Bowen .. .. .	..	68,011	39,793	107,804	41,541
Mackay .. .. .	..	53,543	43,157	96,700	54,856
Townsville .. .. .	..	169,854	82,434	252,288	..
Totals	8,017,913	64,468,771	26,021,995	98,503,679	95,547,538

APPENDIX C.

Revenue Collected under the State Forests and Timber and Quarry Regulations for the Year ended 30th June, 1936.

Districts.	Licenses.		Sales.		Total.	
	£	s. d.	£	s. d.	£	s. d.
Southern Queensland*	235	3 0	458,240	3 9	458,475	6 9
Atherton..	95	8 6	145,056	19 6	145,152	8 0
Bowen ..	14	6 0	723	19 11	738	5 11
Charters Towers	21	8 6	471	16 0	493	4 6
Clermont ..	1	10 0	174	13 3	176	3 3
Dalby ..	16	10 0	3,425	1 0	3,441	11 0
Goondiwindi	2	2 6	765	1 4	767	3 10
Hughenden ..	9	10 0	110	10 5	120	0 5
Ingham ..	6	10 0	479	6 2	485	16 2
Inglewood ..	2	10 0	271	16 5	274	6 5
Mackay ..	17	14 0	1,027	8 5	1,045	2 5
Rockhampton	27	2 0	669	0 6	696	2 6
Roma ..	13	2 0	269	17 9	282	19 9
Townsville ..	28	12 6	2,254	10 0	2,283	2 6
Other Districts†	156	9 3	1,888	17 6	2,045	6 9
Totals ..	£647	18 3	£615,829	1 11	£616,477	0 2

*Southern Queensland includes Brisbane, Bundaberg, Gladstone, Gympie, Ipswich, Maryborough, Toowoomba, Warwick, and part of Mackay Districts.

†Other districts include Aramac, Barcardine, Blackall, Boulia, Burketown, Charleville, Cloncurry, Coen, Cunnamulla, Emerald, Gayndah, Georgetown, Jundah, Kynuna, Longreach, Mackinlay, Mitchell, Monto, Springsure, St. George, Taroom, Thursday Island, and Winton Districts.

APPENDIX D.

Proceeds of Sales of Timber, &c., for the period from 1st July, 1928, to 30th June, 1936.

Districts.	1928-29.	1929-30.	1930-31.	1931-32.	1932-33.	1933-34.	1934-35.	1935-36.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Southern Queensland*	293,112 10 4	225,836 17 3	115,936 3 6	103,488 2 7	181,466 10 5	223,693 8 3	439,550 19 2	458,475 6 9
Atherton ..	62,728 1 11	75,007 6 1	35,644 1 8	29,851 11 1	36,083 11 0	49,928 14 1	117,113 17 7	145,152 8 0
Bowen ..	275 1 2	500 13 3	367 8 5	431 8 9	577 2 6	505 14 5	739 7 6	738 5 11
Charters Towers	1,684 13 5	1,432 5 4	892 5 10	784 7 6	975 16 0	192 8 9	510 15 6	493 4 6
Clermont ..	403 19 9	342 12 10	176 7 10	20 19 9	597 5 5	647 10 2	459 0 5	176 3 3
Dalby ..	1,375 8 3	1,830 6 1	1,503 6 8	1,408 3 6	786 16 9	1,093 17 7	2,410 11 2	3,441 11 0
Goondiwindi	386 4 6	479 13 2	168 7 9	145 15 8	96 15 11	510 6 10	502 12 9	767 3 10
Hughenden ..	546 16 1	362 15 3	184 4 7	123 2 11	97 6 8	101 14 8	244 9 7	129 0 5
Ingham ..	509 16 0	381 6 8	287 4 6	182 7 11	357 4 3	217 5 3	303 7 0	485 16 2
Inglewood ..	425 13 10	826 3 4	319 19 5	79 11 4	45 2 0	174 15 10	138 0 3	274 6 5
Mackay ..	1,293 6 10	827 18 2	1,458 19 2	814 15 4	841 0 1	704 11 11	1,044 2 11	1,045 2 5
Rockhampton	5,562 16 7	4,528 1 10	167 12 9	216 17 7	164 0 9	109 0 5	315 15 4	696 2 6
Roma ..	493 2 10	519 3 4	188 14 6	295 2 9	96 0 1	90 18 8	438 5 8	282 19 9
Townsville ..	740 18 0	537 18 6	598 14 5	875 11 9	2,774 15 1	2,884 15 1	3,395 11 3	2,283 2 6
Other Districts*	1,274 14 5	1,811 6 5	1,882 4 10	906 4 7	1,447 11 11	1,170 14 2	2,060 9 6	2,045 6 9
Totals ..	871,313 3 11	315,274 7 6	159,775 15 10	139,629 3 0	226,406 18 10	282,030 16 1	569,277 5 8	616,477 0 2
					Less Loan Fund Receipts	2,976 12 8		
						£279,054 3 5		

*See appendix C for districts included in Southern Queensland and other districts.

APPENDIX E.

Prices of Log Timber.

The following Schedule illustrates the fluctuations in the Forest Service Key market prices of logs during the year 1st July, 1935, to 30th June, 1936:—

Species.	Girth Class.	Delivery.	Price.
Maple Silkwood ..	8 ft. to 8 ft. 11 in.	F.o.b. Cairns	July 30s.
Rose Silkwood ..		F.o.r. Townsville	November 28s. 6d.
Kauri Pine	8 ft. and over	F.o.b. Cairns	July 19s. 6d.
Grey Teak (White Beech) ..	8 ft. and over	F.o.b. Cairns	July 23s.
Grey Teak (White Beech) ..	7 ft. and over	F.o.b. Brisbane	July 27s. 6d.
Red Cedar	8 ft. and over	F.o.r. Brisbane	July 40s.
Red Cedar	8 ft. and over	F.o.r. Mackay	July 36s., February 34s. 3d.
Red Cedar	8 ft. and over	F.o.b. Cairns	July 42s. 6d.
Queensland Satinay	6 ft. and over	F.o.b. Brisbane	July 23s.
Brown Bollywood (Bolly Gum)	6 ft. and over	F.o.r. Brisbane	July 15s. 6d.
Rose, Butternut (Bolly Gum, N.Q.)	7 ft. and over	F.o.b. Cairns	July 14s. 6d.
Silver Quandong	6 ft. and over	F.o.r. Brisbane	July 17s. 6d.
Rose Mahogany	6 ft. and over	F.o.b. Brisbane	July 20s.
Yellowwood Ash	6 ft. and over	F.o.r. Brisbane	July 17s. 6d., December 18s.
Crow's Ash	6 ft. and over	F.o.r. Brisbane	July 16s., December 18s.
Silver Ash	6 ft. and over	F.o.r. Brisbane	July 16s., December 18s.
Blush Cudgerie (Pink Poplar)	5 ft. and over	F.o.r. Brisbane	July 10s. 6d.
Red Tulip Oak (N.Q.)	7 ft. and over	F.o.b. Cairns	July 16s. 6d.
Brown Tulip Oak (S.Q.)	5 ft. and over	F.o.r. Brisbane	July 12s. 6d.
Yellow Satinash (Water Gum)	7 ft. and over	F.o.b. Cairns	July 17s. 6d.
Silky Oak	8 ft. and over	F.o.b. Cairns	July, 21s.
Putt's Pine	8 ft. and over	F.o.b. Cairns	July 21s.
Walnut Bean	8 ft. to 8 ft. 11 in.	F.o.b. Cairns	July 21s. 6d., January 24s. 6d.
Cypress Pine	All sizes	Central Line West to Comet	July 11s.
		Central Line Comet and West	July 12s.
		Western Line to Miles ..	July 10s.
		Western Line Miles to Morven	July 10s. 6d.
		Western Line, Morven and West	July 11s.
Hoop Pine Ply	7 ft. and over	F.o.r. Brisbane	July 28s. 6d.
Hoop Pine	7 ft. and over	F.o.r. Brisbane	July 21s. 6d.
Hoop Pine Tops	7 ft. and over	F.o.r. Brisbane	July 13s., July 11s.
Hardwood	6 ft. and over	F.o.r.—Brisbane	First class, July 11s. 6d.
		Warwick	Second class, July 10s. 6d.
		Gladstone	Third class, July 8s. 6d.
		F.o.r.—Maryborough	First class, July 11s.
		Bundaberg	Second class, July, 9s. 6d.
		Toowoomba	Third class, July 8s.
		F.o.r. Rockhampton	First class, July 12s.
			Second class, July 11s.
			Third class, July 9s.

APPENDIX F.

Expenditure, Year ended 30th June, 1936.

Item.	FROM 1ST JULY 1935, TO 30TH JUNE, 1936.			Total.	Per Cent.
	Revenue.	Loan.	Trust.		
Overhead Expenses—					
Salaries	27,476	5,778	..	33,254	..
Extra Living Allowances	474	..	..	474	..
Travelling and Incidentals	4,260	..	..	4,260	..
National Parks, Lakes Eacham and Barrine ..	40	..	..	40	..
	32,250	5,778	..	38,028	7.6
Reforestation .. ..	..	101,222	..	101,222	20.4
Timber Trading Operations—					
Harvesting and Marketing (Log Timber) .. ..	..	..	312,904	312,904	..
Lumbering (Hewn, Split, and Pole Timber) ..	..	..	44,774	44,774	..
	..	..	357,678	357,678	72.0
Totals	32,250	107,000	357,678	496,928	100.0

APPENDIX G.

Financial Statement, 1st January, 1904, to 30th June, 1936.

Year.	Gross Revenue (less amounts refunded from Revenue.)	Payments in connection with Marketing of Forest Service Timber (including Roads).	Net Revenue.	OTHER EXPENDITURE FROM REVENUE VOTES.			Surplus Paid to Revenue.
				Overhead.	Capital Improvements, &c.	Total.	
	£	£	£	£	£	£	£
1904-11	216,478	..	216,478	14,487	..	14,487	201,991
1912-18	469,024	..	469,024	42,298	30,834	73,132	395,892
1919 (to 30th June)	38,574	..	38,574	5,619	6,947	12,566	26,008
1919-20	121,152	13,876	107,276	14,483	13,209	27,692	79,584
1920-21	163,461	23,578	139,883	21,434	11,821	33,255	106,628
1921 (1st July to 31st December)	61,517	11,825	49,692	11,783	5,278	17,061	32,631
1922	267,816	91,945	175,871	25,911	7,518	33,429	142,442
1923	367,686	185,253	182,433	28,755	5,630	34,385	148,048
1924	492,586	224,555	268,031	28,823	846	29,669	238,362
1925 (to 30th June)	234,051	102,853	131,198	14,075	..	14,075	117,123
1925-26 (1st July, 1925, to 30th June, 1926)	453,037	227,667	225,370	30,230	..	30,230	195,140
1926-27	543,825	292,944	250,881	31,884	..	31,884	218,997
1927-28	455,015	213,451	241,564	33,087	..	33,087	208,477
1928-29	414,516	174,407	240,109	38,720	..	38,720	201,389
1929-30	336,762	141,288	195,474	38,049	..	38,049	157,425
1930-31	174,106	80,323	93,783	36,080	..	36,080	57,703
1931-32	162,246	84,934	77,312	32,727	..	32,727	44,585
1932-33	235,440	89,345	146,095	33,112	..	33,112	112,983
1933-34	293,991	130,775	163,216	32,155	..	32,155	131,061
1934-35	608,935	301,159	307,776	35,823	29	35,852	271,924
1935-36	660,455	357,678	302,777	32,210	40	32,250	270,527
Totals	£6,770,673	2,747,856	4,022,817	581,745	82,152	663,897	3,358,920

APPENDIX H.

Loan Expenditure—1st July, 1919, to 30th June, 1936.

Year.	Amount Expended.	Revenue Surplus.	Per Cent. of Surplus reinvested.
	£	£	
1919-20	17,197	79,584	22
1920-21	46,949	106,628	44
July-December, 1921	18,794	32,631	57
1922	33,246	142,442	23
1923	44,134	148,048	30
1924	32,178	238,362	13
January-June, 1925	16,795	117,123	14
1925-26	42,006	195,140	21
1926-27	37,378	218,997	17
1927-28	30,995	208,477	15
1928-29	32,175	201,389	16
1929-30	29,833	157,425	19
1930-31	34,397	57,703	42
1931-32	20,000	44,585	44
Buildings transferred from Public Works by Treasury Department	2,629	..	..
1932-33	44,101	112,983	39
1933-34	70,000	138,596	50.5
1934-35	88,562	271,924	33
1935-36	107,000	270,527	39.6
Total	£738,369	£2,742,564	26.0

NOTE.—The sum of £24,411 has been paid to the Treasury during the years 1927-36 in reduction of loan indebtedness, making the debit balance of Forestry Loan Vote at the Treasury on 30-6-36 to be £713,958.

APPENDIX I.

Analysis of Expenditure from Loan Vote from 1st July, 1919, to 30th June, 1936.

	£	£
REFORESTATION AND INCIDENTAL WORKS—		
Plantations	146,300	
Regeneration areas	56,218	
Nursery working and maintenance	61,908	
Forest experiment	17,941	
Construction of nurseries, buildings, &c.	80,718	
Maintenance of capital improvements	15,553	
Forest protection	87,547	
Supervision, miscellaneous stores, fodder, &c.	71,661	
Wet time, holidays, recreation leave, sick leave	46,459	
Workers' compensation and unemployment insurance	13,960	
Surveys	38,263	
Purchases of land and improvements	12,081	
Salaries	11,173	
Miscellaneous	328	
	<hr/>	660,110
OTHER WORKS—		
Roads, construction	12,546	
Roads, maintenance	1,965	
Logging	6,094	
Fire protection (established stands)	3,431	
Purchase of timber lands	917	
Supervision of timber sales	32,960	
Surveys (estimates and reconnaissances)	29,508	
Miscellaneous	2,991	
Buildings taken over from Public Works 30th June, 1932	2,629	
Relief labour on banana blocks	203	
	<hr/>	93,244
		<hr/>
		753,354
<i>Less—Amount recouped from Commonwealth Aid Funds</i>		14,985
		<hr/>
Total		738,369
Less REPAYMENTS—		
Reforestation and incidental works—		
Sale of buildings	75	
Sale of land and improvements	440	
Sale of material	628	
Refund of survey fees	870	
Rent	6,334	
Grazing dues	13,932	
Sale of plants	162	
Sale of maize	38	
Subsidy from Commonwealth on a/c 1934-35 works	1,514	
Other Works—		
Disposal of road material	85	
Sale of fuel	130	
Banana blocks	203	
	<hr/>	24,411
		<hr/>
Net Total		<u>£713,958</u>

APPENDIX J.

Summary of Loan Reforestation Expenditure, Year ended 30th June, 1936.

Reserve.	REFORESTATION.								Total of Columns 2-9.	OVERHEAD EXPENSES.			Total Overhead.	Reserve Total.
	Plantations.	Natural Regeneration.	Nursery Working and Maintenance.	Forest Experiment.	Surveys.	Protection, Fire Fighting, Pear Clearing, &c.	Maintenance of Capital Improvements.	New Construction of Nurseries, Buildings, &c.		Stores, Fodder, Supervision, &c.	Holidays, Wet Time, &c.	Unemp. Insurance.		
1	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
BRISBANE WORKING PLAN AREA.														
R. 69	..	278 3 0	..	..	10 2 8	109 12 3	7-19 0	..	405 16 11	56 13 2	38 5 11	3 1 11	98 1 0	503 17 11
R. 215	..	47 13 3	..	..	7 15 6	62 6 9	..	..	117 15 6	6 18 8	22 8 7	1 3 7	30 10 10	148 6 4
R. 359 (Prison Farm)	303 17 5	303 17 5	12 3 7	..	..	12 3 7	316 1 0
R. 446	9 11 2	..	..	9 11 2	9 11 2
R. 494	..	338 14 4	..	..	4 12 0	240 5 0	..	..	583 11 4	217 8 0	90 12 5	7 0 10	315 1 3	898 12 7
R. 509	221 14 9	..	..	242 16 8	1 5 4	0 17 0	863 8 6	145 11 3	74 15 5	5 19 9	226 6 5	1,089 14 11
R. 527-529	..	396 14 9	258 2 0	..	1 3 11	174 0 7	2 6 2	451 18 7	887 11 3	78 19 7	67 6 10	3 18 7	150 5 0	1,037 16 3
Experiments	371 6 2	..	..	..	..	371 6 2
Firefighting and Patrol	371 6 2	..	190 9 7	..	..	190 9 7	..	..	..	..	190 9 7
Total	922 12 7	221 14 9	371 6 2	23 14 1	1,019 10 10	11 10 6	756 13 0	3,723 16 8	527 5 5	293 9 2	21 4 8	841 19 3	4,565 15 11
BRISBANE VALLEY WORKING PLAN AREA.														
R. 120	..	744 5 9	..	..	81 17 1	135 16 0	10 11 11	18 4 9	990 15 6	13 19 3	57 12 5	5 2 8	76 14 4	1,067 19 10
R. 151	..	71 1 4	..	..	7 0 0	14 7 0	22 18 8	..	115 7 0	3 15 9	9 18 2	0 16 1	14 10 0	129 17 0
R. 257	..	1,056 1 10	..	..	2 10 0	179 4 3	19 1 10	..	1,746 4 8	62 17 6	165 0 6	10 13 1	238 11 1	1,984 15 9
R. 258	466 14 4	..	..	..	..	22 12 5	35 0 0	0 9 0	..	..	0 9 0	35 9 0
R. 283	..	3,097 12 7	28 18 1	990 16 6	50 12 7	828 14 3	233 17 7	577 3 8	5,807 10 3	734 15 3	639 2 11	34 2 5	1,408 0 7	7,215 10 10
R. 289	..	2,517 4 10	..	884 9 6	98 12 1	651 4 1	162 10 6	648 5 6	4,962 6 6	761 3 4	398 3 2	31 10 2	1,190 16 6	6,153 3 2
R. 299	..	829 5 0	..	250 7 1	84 8 3	254 13 4	106 17 0	1,244 1 0	2,769 11 8	245 6 8	189 9 3	11 17 7	446 13 6	3,216 5 2
R. 379	24 10 3	96 7 9	..	120 18 0	7 5 0	2 0 3	1 0 2	10 5 5	131 3 5
Experiments	328 19 1	..	..	..	..	328 19 1
Firefighting and Patrol	328 19 1	..	70 4 2	..	..	70 4 2	..	..	..	..	70 4 2
Total	8,315 11 4	28 13 1	2,592 7 5	325 0 0	2,158 13 4	652 5 3	2,545 7 4	16,946 16 10	1,829 11 9	1,461 6 8	95 2 2	3,386 0 7	20,332 17 5
BUNDABERG WORKING PLAN AREA.														
R. 80	..	541 4 11	..	..	335 13 7	983 15 5	11 8 10	40 18 4	1,913 1 1	301 2 9	209 8 9	13 17 8	524 9 2	2,437 10 3
R. 169	..	321 10 9	..	..	0 15 10	1,011 14 7	16 16 6	65 13 0	1,416 10 8	194 17 7	160 6 8	11 10 1	366 14 4	1,783 5 0
Experiments	2 12 10	..	..	..	..	2 12 10
Firefighting and Patrol	2 12 10	..	44 15 1	..	..	44 15 1	..	..	..	..	44 15 1
Total	862 15 8	..	2 12 10	336 9 5	2,040 5 1	28 5 4	106 11 4	3,376 19 8	496 0 4	369 15 5	25 7 9	891 3 6	4,268 3 2
CLERMONT WORKING PLAN AREA.														
R. 117	..	555 17 4	..	..	..	..	..	..	555 17 4	102 3 6	55 2 10	3 9 9	160 16 1	716 13 5
Firefighting and Patrol	0 9 0	..	..	0 9 0	..	..	..	..	0 9 0
Total	555 17 4	..	..	..	0 9 0	..	..	556 6 4	102 3 6	55 2 10	3 9 9	160 16 1	717 2 5
DALBY WORKING PLAN AREA.														
R. 4	..	86 19 0	..	..	..	481 1 11	18 12 1	27 6 10	613 19 10	186 4 1	92 18 8	5 11 4	284 14 1	898 13 11
R. 16	..	378 1 4	..	..	0 16 4	1,910 7 6	2 6 11	455 1 0	2,746 13 1	507 9 2	251 13 11	21 4 3	780 7 4	3,527 0 5
R. 60	566 5 6	..	..	..	566 5 6	10 16 1	..	..	13 15 9	580 1 3
R. 78	..	852 6 0	..	..	..	363 5 2	1 13 5	50 19 10	1,268 4 5	299 0 11	164 5 2	11 5 11	474 12 0	1,742 16 5
R. 93	..	117 8 3	..	..	..	326 8 4	6 4 11	15 1 2	465 2 8	118 5 4	66 13 10	4 7 6	189 6 8	654 9 4
R. 126	..	194 14 8	..	..	..	0 17 6	..	..	195 12 2	11 8 3	22 12 8	1 8 0	35 8 11	291 1 1
R. 150	..	198 8 2	..	..	..	337 6 9	2 14 9	28 17 6	567 7 2	119 4 10	93 17 4	5 4 1	218 6 3	785 13 5
R. 154	..	555 15 9	..	..	13 4 5	1,136 0 0	15 11 5	474 9 6	2,195 1 1	620 8 11	306 8 1	16 12 9	943 9 9	3,188 10 10
R. 155	182 10 4	..	..	..	182 10 4	3 11 3	..	0 17 6	4 8 9	186 19 1
Experiments	7 1 7	..	..	..	..	7 1 7
Firefighting and Patrol	7 1 7	..	152 11 7	..	..	152 11 7	..	..	..	..	152 11 7
Total	2,383 13 2	..	7 1 7	762 16 7	4,707 18 9	47 3 6	1,051 15 10	8,960 9 5	1,876 8 10	998 9 8	69 11 0	2,944 9 6	11,004 18 11

APPENDIX J—continued.

Reserve.	REFORESTATION.				Surveys.	Protection, Fire Fighting, Pear Clearing, &c.	Maintenance of Capital Improvements.	New Construction of Nurseries, Buildings, &c.	Total of Columns 2-9.	OVERHEAD EXPENSES.			Total Overhead.	Reserve Total.
	Plantations.	Natural Regeneration.	Nursery Working and Maintenance.	Forest Experiments.						Stores, Fodder, Supervision, &c.	Holidays, Wet Time, &c.	Unemp. Insurance.		
	2	3	4	5						6	7	8			9	10	11	12	13	14	15
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
FRASER ISLAND WORKING PLAN AREA.														
R. 3	169 11 5	784 16 6	..	65 19 0	..	503 17 9	143 6 3	..	1,601 11 11	1,130 5 7	223 11 0	17 14 0	1,371 10 7	2,973 2 6
Experiments .. .. .	..	..	..	..	..	..	..	..	65 19 0	..	..	..	..	65 19 0
Firefighting and Patrol .. .. .	..	..	..	..	..	93 6 7	..	..	93 6 7	..	..	..	..	93 6 7
Total	169 11 5	784 16 6	..	65 19 0	..	597 4 4	143 6 3	..	1,760 17 6	1,130 5 7	223 11 0	17 14 0	1,371 10 7	3,132 8 1
INGLEWOOD WORKING PLAN AREA.														
R. 48 .. .. .	..	..	..	..	..	2 18 5	..	7 5 0	10 3 5	29 4 7	1 6 7	0 1 0	30 12 2	40 15 7
R. 76 .. .. .	..	..	..	..	..	277 5 0	..	7 5 0	284 10 0	38 18 6	22 12 3	1 19 1	63 9 10	347 19 10
R. 79 .. .. .	..	385 5 11	..	..	..	213 19 9	39 16 2	337 5 1	976 6 11	124 17 5	79 11 9	4 18 7	209 7 10	1,185 14 8
R. 81 .. .. .	..	..	..	..	..	296 9 6	..	7 5 0	303 14 6	61 4 2	54 3 1	2 16 6	118 3 9	421 18 3
R. 101 .. .. .	..	289 8 2	..	..	..	165 3 6	..	252 9 11	707 1 7	87 16 11	86 6 11	4 7 5	178 11 3	885 12 10
R. 117 .. .. .	..	296 5 2	..	..	..	119 3 4	..	3 12 6	419 1 0	60 18 8	45 12 1	3 2 11	109 13 8	528 14 8
R. 122 .. .. .	..	360 4 3	..	..	..	333 19 3	..	14 9 6	708 13 0	106 4 10	75 14 6	5 13 11	187 13 3	396 6 3
R. 134 .. .. .	..	431 7 2	..	..	..	205 13 9	..	189 1 0	326 1 11	131 10 3	82 2 8	5 16 10	219 9 9	1,045 11 8
R. 161 .. .. .	..	..	..	..	..	..	..	..	..	0 1 2	..	..	0 1 2	0 1 2
Portions 12, 13, 14, parish of Tandan .. .. .	..	..	..	..	..	..	..	..	..	1 10 9	..	..	1 10 9	1 10 9
Firefighting and Patrol .. .. .	..	..	..	..	..	289 7 1	..	..	289 7 1	..	..	..	..	289 7 1
Total .. .. .	..	1,762 10 8	..	..	..	1,903 19 7	39 16 2	818 13 0	4,524 19 5	642 7 3	447 9 10	28 16 3	1,118 13 4	5,643 12 9
KILCOY WORKING PLAN AREA.														
R. 137 .. .. .	..	..	..	..	76 13 1	42 10 9	4 15 0	2,254 19 11	2,378 18 9	121 3 8	59 2 3	4 7 7	184 13 6	2,563 12 3
R. 480 .. .. .	..	..	..	..	..	35 10 8	..	..	35 10 8	5 17 11	4 12 3	0 4 0	10 14 2	46 4 10
R. 893	359 19 5	59 5 2	353 16 8	..	..	73 1 4	..	78 0 1	924 2 8	77 0 1	96 17 1	5 8 4	179 5 6	1,103 8 2
Firefighting and Patrol .. .. .	..	..	..	..	..	92 2 2	..	..	92 2 2	..	..	..	..	92 2 2
Total	359 19 5	59 5 2	353 16 8	..	76 13 1	243 4 11	4 15 0	2,333 0 0	3,430 14 3	204 1 8	160 11 7	9 19 11	374 13 2	3,805 7 5
KILKIVAN WORKING PLAN AREA.														
R. 24 .. .. .	..	162 0 2	..	..	44 1 0	83 0 4	0 3 1	493 6 4	782 10 11	115 6 8	51 7 0	2 15 6	169 9 2	952 0 1
R. 82 .. .. .	..	..	89 19 0	..	31 16 7	46 4 4	0 4 9	1,218 10 10	1,386 15 6	227 4 1	86 6 3	6 1 6	319 11 10	1,706 7 4
R. 220	523 15 7	..	178 0 3	..	85 9 7	171 14 9	0 1 8	34 17 11	993 19 9	168 4 10	114 0 7	7 10 2	289 15 7	1,283 15 4
R. 242 .. .. .	..	..	..	..	98 17 3	..	..	..	98 17 3	1 14 3	..	0 5 0	1 19 3	100 16 6
R. 298 .. .. .	..	..	303 16 0	..	1 8 0	7 6 4	7 14 11	7 0 0	327 5 3	75 9 1	23 19 2	1 16 6	101 4 9	423 10 0
R. 355	370 7 0	..	63 6 0	..	..	24 18 9	1 15 8	2 16 9	463 4 2	37 2 7	29 10 9	3 8 4	70 1 8	533 5 10
Construction of Office, Kilkivan .. .. .	..	..	..	..	..	..	..	433 15 9	433 15 9	..	..	..	..	433 15 9
Firefighting and Patrol .. .. .	..	..	..	..	..	17 10 3	..	..	17 10 3	..	..	..	..	17 10 3
Total	894 2 7	162 0 2	635 1 3	..	281 12 5	350 14 9	10 0 1	2,190 7 7	4,503 18 10	625 1 6	305 3 9	21 17 0	952 2 3	5,456 1 1
MACKAY WORKING PLAN AREA.														
R. 12	73 19 3	..	..	..	..	1 4 3	6 9 4	..	81 12 10	1 12 4	36 1 11	0 17 6	38 11 9	120 4 7
MANY PEAKS WORKING PLAN AREA.														
R. 95, &c.	996 0 10	..	330 3 8	..	3 8 7	367 10 4	98 18 9	661 18 3	2,458 0 5	208 16 0	222 7 5	16 18 5	448 1 10	2,906 2 3
Experiments .. .. .	..	..	..	2 1 0	..	..	..	..	2 1 0	..	..	..	..	2 1 0
Firefighting and Patrol .. .. .	..	..	..	..	..	54 16 10	..	..	54 16 10	..	..	..	..	54 16 10
Total	996 0 10	..	330 3 8	2 1 0	3 8 7	422 7 2	98 18 9	661 18 3	2,514 18 3	208 16 0	222 7 5	16 18 5	448 1 10	2,993 0 1

APPENDIX J—continued.

Reserve.	REFORESTATION.				Surveys.	Protection, Fire Fighting, Pear Clearing, &c.	Maintenance of Capital Improvements.	New Construction of Nurseries, Buildings, &c.	Total of Columns 2-9.	OVERHEAD EXPENSES.			Total Overhead.	Reserve Total.
	Plantations.	Natural Regeneration.	Nursery Working and Maintenance.	Forest Experiment.						Stores, Fodder, Supervision, &c.	Holidays, Wet Time, &c.	Unemp. Insurance.		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.

MARYBOROUGH WORKING PLAN AREA.

R. 12		787 9 1			4 4 4	296 0 10		534 2 2	1,571 16 5	177 15 8	160 15 8	9 15 3	348 6 7	1,920 3 0
R. 59		286 16 8			4 9 0	387 7 1	14 4 0		692 16 9	100 12 4	82 11 2	5 0 0	188 3 6	881 0 3
R. 62		119 1 9			288 1 5	601 5 8	9 12 9	7 3 11	1,025 5 6	170 11 5	81 18 3	6 12 5	259 2 1	1,284 7 7
R. 303					3 9 1	100 2 4			103 11 5	70 8 8	3 1 11	0 15 8	74 6 3	177 17 8
R. 435		356 6 10			8 3 1	433 6 8	37 12 6	256 13 4	1,092 2 5	204 11 3	107 13 2	7 16 10	320 1 3	1,412 3 8
Experiments				21 0 8					21 0 8					21 0 8
Firefighting and Patrol						267 4 5			267 4 5					267 4 5
Portion 146, St. Mary								40 0 0	40 0 0					40 0 0
Total		1,499 14 4		21 0 8	308 6 11	2,085 7 0	61 9 3	837 19 5	4,813 17 7	723 19 4	436 0 2	30 0 2	1,189 19 8	6,003 17 3

MARY VALLEY WORKING PLAN AREA.

R. 124	766 13 10		251 1 7			185 8 1	138 5 2	395 0 8	1,736 9 4	241 17 1	179 2 3	8 12 10	429 12 2	2,166 1 6
R. 135	3,771 12 7		954 2 2		337 17 6	2,014 10 4	1,042 19 11	200 15 4	8,317 17 10	1,153 4 2	1,217 8 3	63 15 2	2,434 7 7	10,752 5 5
R. 256	159 13 10					143 4 10	22 18 2	0 11 7	326 8 5	15 10 3	50 10 10	2 13 1	68 14 2	395 2 7
R. 435	6,665 9 1		445 9 6		155 12 6	1,570 10 1	499 2 2	977 12 2	10,313 15 6	1,018 16 2	1,476 10 2	68 18 8	2,564 5 0	12,878 0 6
Experiments				192 13 0					192 13 0					192 13 0
Firefighting and Patrol						106 9 2			106 9 2					106 9 2
Total	11,363 9 4		1,650 13 3	192 13 0	489 10 0	4,020 2 6	1,703 5 5	1,573 19 9	20,993 13 3	2,429 7 8	2,923 11 6	143 19 9	5,496 18 11	26,490 12 2

NORTH COAST WORKING PLAN AREA.

R. 60		46 17 1				55 17 5		2 10 8	105 5 2	18 0 1	13 6 11	0 16 0	32 3 0	137 8 2
R. 173					16 13 5	101 6 8		5 10 11	123 11 0	23 6 8	13 16 0	0 16 3	37 18 11	161 9 11
R. 234					4 4 8				4 4 8					4 4 8
R. 249		184 18 3				128 15 3			313 13 6	26 17 2	41 10 10	2 10 3	70 18 3	384 11 9
R. 318	115 10 4	271 8 9	50 4 10			89 18 4	54 2 8	200 0 0	781 4 11	84 4 7	116 13 3	5 2 1	205 19 11	987 4 10
R. 392	5 8 11		66 2 10			73 10 9	12 9 6	179 1 1	336 13 1	26 18 8	33 4 11	2 0 6	62 4 1	398 17 2
R. 393	227 7 0	7 8 9	60 1 0			42 18 8			337 15 5	61 13 3	40 4 5	2 12 5	104 10 1	442 5 6
R. 445		665 6 2				130 2 3		5 13 0	801 1 5	107 14 5	215 4 6	8 16 5	331 15 4	1,132 16 9
R. 451				1 16 8					1 16 8	0 5 0			0 5 0	2 1 8
R. 561	676 12 6		519 4 5			286 14 5	18 15 5	20 11 0	1,521 17 9	417 15 8	289 1 10	12 14 7	719 12 1	2,241 9 10
R. 589	1,168 3 5				21 2 9	491 0 9	99 15 9	150 19 6	1,931 2 2	272 4 2	192 3 3	14 7 6	478 15 6	2,409 17 3
R. 603				5 9 4					5 9 4					5 9 4
R. 611		44 11 5							44 11 5	1 1 4	16 10 1	0 8 3	17 19 8	62 11 1
R. 728						1 5 0			1 5 0					1 5 0
Portion 75, Bribie								4 10 0	4 10 0					4 10 0
Experiments				82 1 1					82 1 1					82 1 1
Firefighting and Patrol						218 2 7			218 2 7					218 2 7
Total	2,193 2 2	1,220 10 5	695 13 1	89 7 1	42 0 10	1,619 12 1	185 3 4	568 16 2	6,614 5 2	1,040 1 7	971 16 0	50 4 8	2,062 1 10	8,676 7 0

APPENDIX J.—continued.

Reserve.	REFORESTATION.				Surveys.	Protection, Fire Fighting, Pear Clearing, &c.	Maintenance of Capital Improvements.	New Construction of Nurseries, Buildings, &c.	Total of Columns 2-9.	OVERHEAD EXPENSES.			Total Overhead.	Reserve Total.
	Plantations.	Natural Regeneration.	Nursery Working and Maintenance.	Forest Experiment.						Stores, Fodder, Supervision, &c.	Holidays, Wet Time, &c.	Unemp. Insurance.		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
NORTH QUEENSLAND WORKING PLAN AREA.														
R. 185	..	..	..	..	..	..	0 16 0	..	0 16 0	..	..	..	..	0 16 0
R. 191	..	..	..	..	..	136 17 4	31 2 11	4 10 1	2,053 0 7	252 18 2	230 13 7	12 16 0	496 7 9	2,549 8 4
R. 194	..	..	..	..	..	4 0 6	..	1 1 1	5 1 7	1 6 10	..	..	1 6 10	6 8 5
R. 310	..	..	..	..	0 12 5	..	17 2 6	6 11 5	1,702 0 7	179 0 8	182 18 9	9 9 11	371 9 4	2,073 9 11
Experiments	..	..	..	154 2 10	..	..	..	..	154 2 10	..	..	..	..	154 2 10
Firefighting and Patrol	..	..	..	..	..	9 1 4	..	..	9 1 4	..	..	..	..	9 1 4
Total ..	3,071 2 10	..	487 1 8	154 2 10	0 12 5	149 19 2	49 1 5	12 2 7	3,924 2 11	433 5 8	413 12 4	22 5 11	869 3 11	4,793 6 10
ROCKHAMPTON WORKING PLAN AREA.														
R. 20	..	..	..	13 10 0	..	..	..	..	13 10 0	3 3 0	..	..	3 3 0	16 13 0
Firefighting and Patrol	..	..	..	..	..	1 10 0	..	..	1 10 0	..	..	..	..	1 10 0
Total ..	..	..	..	13 10 0	..	1 10 0	..	..	15 0 0	3 3 0	..	..	3 3 0	18 3 0
WARWICK WORKING PLAN AREA.														
R. 263	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Experiments	481 9 9	..	161 15 6	12 1 2	25 2 5	442 5 4	15 12 9	17 8 0	1,143 13 9	183 15 9	108 15 4	7 11 6	300 2 7	1,443 16 4
Total ..	481 9 9	..	161 15 6	12 1 2	25 2 5	442 5 4	15 12 9	17 8 0	1,155 14 11	183 15 9	108 15 4	7 11 6	300 2 7	1,455 17 6
GRAND TOTALS	28,315 3 8	10,242 9 1	7,128 7 3	1,260 14 5	2,655 6 9	21,764 8 1	3,057 2 4	13,474 12 3	87,898 3 10	12,457 7 2	9,427 4 7	565 0 0	22,449 11 9	110,347 15 7
													Stores Suspense	306 2 4
													Workers' Compensation	2,886 9 0
													Allowances, &c., Salaried Officers	41 5 1
													Administration, Head Office	640 8 3
													Kirrama Road	89 3 9
													Total Reforestation Expenditure	114,311 4 0
													Less - Reimbursement from Commonwealth Aid Funds	13,089 4 0
														£101,222 0 0

APPENDIX K.
Areas of Plantations Established.

Working Plan Area.	Res. No.	AREA PLANTED (ACRES).						TOTALS.	
		Eucalypts.		Softwoods.		Other Species.		1935-36.	To 30th June, 1936.
		1935-36.	To 30th June, 1936.	1935-36.	To 30th June, 1936.	1935-36.	To 30th June, 1936.		
Brisbane Valley and Nanango	283 289 120 379 257 299 151 509	.. 7-0	136-0 154-5 72-0	269-0 235-0 109-0 .. 92-0 92-0 .. 58-4	1,275-3 1,293-7 212-7 40-0 613-5 681-9 148-0 621-4	.. .. .. .. .. .. .. ..	.. 6-0	269-0 242-0 109-0 .. 92-0 92-0 .. 58-4	1,411-3 1,454-2 212-7 40-0 685-5 681-9 148-0 621-4
Total ..	..	7-0	362-5	895-4	4,886-5	..	6-0	862-4	5,255-0
Fraser Island ..	3	..	161-0	..	749-5	..	..	..	910-5
Kilcoy	893	57-0	57-0	..	..	..	..	57-0	57-0
Kilkivan	355 220	5-0 ..	8-0 ..	22-0 50-0	121-5 270-4	.. ..	.. ..	27-0 50-0	129-5 270-4
Total ..	..	5-0	8-0	72-0	391-9	..	..	77-0	399-9
Mackay	12	..	..	..	30-5	..	..	..	30-5
Many Peaks ..	95	..	..	89-0	144-0	..	..	89-0	144-0
Maryborough ..	287	..	..	..	35-0	..	..	..	35-0
Mary Valley ..	135 435 256 124	3-0 2-0	3-0 2-0	100-0 301-2 .. 65-7	2,370-7 1,454-3 1,334-2 187-7	1-0	1-0	104-0 303-2 .. 65-7	2,374-7 1,456-3 134-2 187-7
Total ..	..	5-0	5-0	466-9	4,146-9	1-0	1-0	472-9	4,152-9
North Coast ..	561 589 318 393 611	.. .. 52-0 .. 170-8	5-0 .. 119-0 181-0 170-8	28-0 344-5	1,323-0 806-5	1-2	6-7	29-2 344-5 52-0 .. 170-8	1,334-7 806-5 119-0 181-0 170-8
Total ..	..	222-8	475-8	372-5	2,129-5	1-2	6-7	596-5	2,612-0
North Queensland	191 194 310 418	.. .. .. ..	51-8 109-5 13-8 ..	42-0 .. 70-0 ..	406-7 22-0 191-0 ..	.. .. 9-0 ..	18-9 12-5 279-4 4-0	42-0 .. 79-0 ..	477-4 144-0 484-2 4-0
Total ..	..	..	175-1	112-0	619-7	9-0	314-8	121-0	1,109-6
Warwick	263	..	0-3	88-0	590-0	..	18-5	88-0	608-8
Experimental Areas									
Imbil	135	..	4-0	..	47-5	..	9-7	..	61-2
Maryborough ..	..	..	..	..	5-0	..	..	..	5-0
Fraser Island ..	3	..	..	..	8-0	..	..	..	8-0
Dalby	4	..	..	..	0-2	..	..	..	0-2
Rockhampton ..	93	..	..	..	1-0	..	..	..	1-0
Gympie	20	..	..	..	7-0	..	..	..	7-0
Bribie Island ..	451 603	.. ..	.. ..	.. 0-7	17-9 0-7	.. ..	.. ..	.. ..	17-9 0-7
Total ..	..	..	4-0	0-7	87-3	..	9-7	0-7	101-0
Grand Totals ..	..	296-8	1,248-7	2,056-1	13,810-4	11-2	356-7	2,364-1	15,415-8

NOTE.—Table has been amended to give figures of *satisfactorily and fully established plantations* in the Mary Valley, Brisbane Valley, and Rockhampton Working Plan Areas revealed by survey made during the year.

APPENDIX L.

Areas of Natural Forests Treated and Improved.

Working Plan Area.	Res. No.	AREA TREATED (ACRES).									Total Area Treated to 30th June, 1936.
		Eucalypts. (1)			Softwoods. (2)			Other Species.			
		Treated 1935-36.	First Treatment 1935-36.	Total at 30th June, 1936.	Treated 1935-36	First Treatment 1935-36.	Total at 30th June, 1936.	Treated 1935-36.	First Treatment 1935-36.	Total at 30th June, 1936.	
Brisbane	69	384	..	1,548	..	..	..	..	..	..	1,548
	1,376	265	160	1,379	..	..	..	..	..	..	1,379
	215	253	..	925	..	..	..	..	..	..	925
	893	210	210	1,190	..	..	..	..	..	..	1,190
	494	900	900	1,040	..	..	..	..	..	..	1,040
Total .. ..	..	2,012	1,270	6,082	..	..	..	..	..	..	6,082
Brisbane Valley and Nanango	283	..	..	1,589	..	..	747	..	..	40	2,376
	289	..	..	32	..	..	25	..	..	..	57
	257	..	..	125	..	..	..	..	..	66	191
	151	..	..	..	..	..	337	..	..	..	337
	299	..	..	50	..	..	332	..	..	..	382
	509	..	..	1,616	..	..	..	..	..	..	1,616
	527	1,600	1,600	1,670	..	..	..	..	..	..	1,670
Total .. ..	..	1,600	1,600	5,082	..	..	1,441	..	..	106	6,629
Clermont	117	2,825	2,825	2,825	..	..	..	..	..	..	2,825
Bundaberg	169	..	..	..	1,097	1,097	5,258	..	..	..	5,258
	80	2,421	2,421	5,008	..	..	..	..	..	..	5,008
Total .. ..	..	2,421	2,421	5,008	1,097	1,097	5,258	..	..	..	10,266
Dalby	93	604	604	12,446	..	..	1,124	..	..	..	13,570
	141	..	..	802	..	..	..	..	..	..	802
	4	456	304	5,053	..	..	..	..	..	..	5,053
	78	..	..	..	3,211	3,211	12,225	..	..	..	12,225
	34	..	..	1,270	..	..	2,496	..	..	..	3,766
	150	..	..	..	1,005	1,005	3,852	..	..	..	3,852
	139	..	..	900	..	..	..	..	..	..	900
	16	..	..	..	1,684	1,684	4,143	..	..	..	4,143
	127	..	..	..	..	..	765	..	..	..	765
	126	..	..	..	657	657	1,670	..	..	..	1,670
	154	..	..	..	2,511	2,511	3,117	..	..	..	3,117
	Total	1,060	908	20,471	9,068	9,068	29,392
Fraser Island	3	1,675	293	9,476	..	..	2,310	..	..	..	11,786
Inglewood	79	..	..	..	1,820	1,763	22,487	..	..	..	22,487
	122	..	..	..	2,312	2,312	17,302	..	..	..	17,302
	117	1,511	1,511	8,458	..	..	..	..	..	..	8,458
	101	2,094	2,094	7,098	..	..	..	..	..	..	7,098
	134	..	..	..	2,465	2,465	6,531	..	..	..	6,531
	81	..	..	2,372	..	..	..	..	..	..	2,372
Total .. ..	..	3,605	3,605	17,928	6,597	6,540	46,320	..	..	..	64,248
Kilkivan	221	..	..	..	..	..	560	..	..	..	560
	220	..	..	..	..	..	155	..	..	..	155
	355	..	..	..	..	..	40	..	..	..	40
	26	..	..	..	..	..	150	..	..	..	150
	700	..	..	3,672	..	..	..	..	..	..	3,672
	494	..	..	1,350	..	..	..	..	..	..	1,350
	24	984	984	1,537	..	..	..	..	..	..	1,537
Total .. ..	..	984	984	6,559	..	..	905	..	..	..	7,464
Mackay	12	..	..	82	..	..	24	..	..	..	106
Maryborough	287	..	..	..	..	..	240	..	..	..	240
	435	1,476	1,476	3,686	..	..	..	..	..	..	3,686
	59	845	845	941	..	..	..	..	..	..	941
	62	121	121	561	..	..	..	..	..	..	561
	12	2,198	2,198	2,208	..	..	..	..	..	..	2,208
Total .. ..	..	4,640	4,640	7,396	..	..	240	..	..	..	7,636

APPENDIX L.—continued.

Areas of Natural Forests Treated and Improved.

Working Plan Area.	Res. No.	AREA TREATED (ACRES)									Total Area Treated to 30th June, 1936.
		Eucalypts. (1)			Softwoods. (2)			Other Species.			
		Treated 1935-36.	First Treatment 1935-36.	Total at 30th June, 1936.	Treated 1935-36.	First Treatment 1935-36.	Total at 30th June, 1936.	Treated 1935-36.	First Treatment 1935-36.	Total at 30th June, 1936.	
Mary Valley	135	..	..	159	..	..	277	..	..	..	436
	435	..	..	..	..	..	70	..	..	55	125
Total .. ..	..	..	..	159	..	..	347	..	..	55	561
North Coast	318	649	..	3,318	..	..	..	..	..	..	3,318
	313	..	..	1,174	..	..	..	..	..	..	1,174
	583	..	..	1,455	..	..	..	..	..	..	1,455
	445	686	..	1,208	..	..	..	..	..	..	1,208
	249	695	450	1,238	..	..	..	..	..	..	1,238
	60	265	..	1,410	..	..	..	..	..	..	1,410
	393	90	90	90	..	..	..	..	..	..	90
	611	312	312	312	..	..	..	..	..	..	312
Total .. ..	..	2,697	852	10,205	..	..	..	..	..	..	10,205
North Queensland ..	191	..	..	..	..	..	..	..	..	53	53
	194	..	..	175	..	..	..	..	..	..	175
	310	..	..	..	..	..	..	..	..	128	128
	418	..	..	..	..	..	..	..	..	43	43
	452	..	..	..	..	..	..	..	..	20	20
	245	..	..	339	..	..	..	..	..	..	339
Total .. ..	..	..	..	514	..	..	..	..	..	244	758
Grand Totals .. ..	..	23,519	19,398	91,787	16,762	16,705	86,237	..	..	405	178,429

NOTE.—(1) Includes some cypress pine associated with narrow leaf ironbark.

(2) Includes some narrow leaf ironbark associated with cypress pine.

Areas have been shown according to preponderance of either species in the stand. Some Dalby and Inglewood areas are so concerned.

APPENDIX M.

Assistance to Local Authorities for the Construction of and Repairs to Roads and Bridges.

SUBSIDIES APPROVED FOR 1935-36.

Atherton Shire Council ..	Road from Kairi to S.F.R. 185 Danbulla	£	100
Cook Shire Council	Causeway over Treveton Creek	50	
Crow's Nest Shire Council ..	Culvert Googa Creek, S.F.R. 257 Emu Creek	10	
Degilbo Shire Council	Road from Coalstoun Lakes towards T.R. 85 Dundar ..	210	
Eacham Shire Council	Whiting's Bridge over the Beatrice River	75	
Esk Shire Council	Road from Linville to Mount Stanley	1,805	
Esk Shire Council	Esk—Ravensbourne Road	100	
Herberton Shire Council ..	Cashmere—Mount Garnet Road	20	
Kilkivan Shire Council	Planted Creek Road	80	
Kilkivan Shire Council	Manumbar—Kinbombi Road	60	
Kilkivan Shire Council	Road along Portion 10v Boonara	10	
Kilkivan Shire Council	Kilkivan—Blacksnake Road	50	
Kilkivan Shire Council	Oakview—Sinai Road	15	
Kilkivan Shire Council	Road from Cinnabar to Res. 355 Cinnabar	5	
Kilkivan Shire Council	Road through Portions 117 and 118, Parish of Widgee ..	20	
Kilkivan Shire Council	Grongah Road to T.R. 67 Grongah	780	
Landsborough Shire Council ..	Curramore Road to S.F.R. 736 Maleny	40	
Maroochy Shire Council	Kenilworth—Brooloo Road	50	
Maroochy Shire Council	Cooloolabin Private Road	50	
Maroochy Shire Council	Locke's Road to S.F.R. 445 Kenilworth	30	
Nanango Shire Council	Road from S.F.R. 151 Tureen towards Brooklands ..	400	
Rosalie Shire Council	Upper Cooyar Road	340	
Rosalie Shire Council	East Cooyar Road	240	
Rosalie Shire Council	Mount Binga Road	240	
Rosalie Shire Council	Road through S.F.R. 257 Cooyar	120	
Stanthorpe Shire Council	Road through S.F.R. 263, Parish of Marsh	10	
Tiaro Shire Council	Bridge across Sandy Creek, Parish of Tahiti	5	
Widgee Shire Council	Road towards S.F.R. 124, Parish of Glastonbury ..	45	
Woocoo Shire Council	Upper Bowling Green Road	100	
Woocoo Shire Council	Teabar—Brooweena Road	50	
Woocoo Shire Council	Gigoongan—Brooweena Road	50	
Woothakata Shire Council	Ganes Bridge across Clohesy River at Koah	50	
Woothakata Shire Council	Rifle Creek Bridge on Molloy—Port Douglas Road ..	60	
Woothakata Shire Council	Bridge near Portion 88v, Parish of Mona Mona ..	20	
Main Roads Commissioner ..	Eungella Range Road, Mackay	50	

£5,340

APPENDIX N.

Particulars of Forest Survey Work, year ended 30th June, 1936.

CLASS 1.—INSPECTIONS OF VACANT CROWN LANDS AND TIMBER RESERVES.

Reserve.	Parish.	Area in Acres.
State Forest 527	Deongwar	2,310
State Forest 528	Deongwar	6,150
State Forest 529	Deongwar	1,820
	Total	10,280

CLASS 2.—ASSESSMENT SURVEYS.

Reserve.	Parish.	Area in Acres.
Timber Reservé 675	Grafton (part)	23,000
Timber Reserve 30	Garioch (part)	9,000
State Forest 528 (part)	Deongwar	250
State Forest 69	Bunya	1,575
State Forest 215	Redland	925
P.P.L. 530	Callitris	18,000
Portions 146, 87, 88, 122v Portions 102, 1236, 1339	St. Mary	5,619
	Total	58,369

CLASS 3.—INTENSIVE CONTOUR AND ASSESSMENT SURVEYS.

Reserve.	Parish.	Area in Acres.
Timber Reserve 220	Kilkivan, Brooyar	5,000
State Forest 169, &c.	St. Agnes (proceeding)	6,311
State Forest 80, &c.	Littabella, Tottenham	22,686
State Forest 390	St. Mary	13,540
State Forest 62	St. Mary	6,880
State Forest 499	St. Mary	1,900
State Forest 505	St. Mary	531
	Total	56,848

COMPARTMENT SURVEYS.

Reserve.	Parish.	Area in Acres.
State Forest 24	Charleston (part)	5,000
Timber Reserve 155	Marmadua, Durabilla	24,670
Timber Reserve 58	Gideon	29,000
State Forest 61	Gideon, Moraby, Callitris	31,160
State Forest 328	Amoolee, Yuleba, Tinowon	45,700
State Forest 381	Tinowon	2,465
P.P.L. 278	Tchanning .. .. .	..
	Total	137,995

FIREBREAK SURVEYS.

Reserve.	Parish.	Logging Area.	Miles, Chains.	Area in Acres.
82	Brooyar	Dry, Creek	8 02	1,300
242	Widgee	North, Ironwood	11 13	1,300
220	Kilkivan	Gap .. .. .	..	1,000
137	Yabba	Mill, Foxlowe	9 16	425
135	Brooloo	West and East Derrier	6 18	399
135	Brooloo	Little Derrier	12 32	1,115
135	Brooloo	Aucararia	8 15	633
135	Brooloo	Breakneck	3 17	321
135	Brooloo	West Coonoongibber	0 34	..
435	Amamoor	Cedar Gully	4 77	108
435	Kandanga	Long Gully	8 50	194
120	Neumgna	West Pocket	9 70	1,500
283	Colinton	Benarkin	2 14	78
289	Cooyar	Rocky	8 65	1,033
299	Avoca	Paradise	7 31	895
Total .. .. .	.. .. .	.. .. .	..	10,301

APPENDIX N—*continued.*

MISCELLANEOUS SURVEYS.

Reserve and Parish.	Compartment No.	Logging Area.	Miles, Chains.	Remarks.
435 Amamoor	3, 4	Harry Creek	1 0	Plantation
435 Amamoor	5, 6, 7	Zachariah	1 22	Plantation
435 Amamoor	2A, 5A	Harry Creek	3 24	Firebreaks, Species, Fences, Leases, &c.
435 Amamoor	1A, 1B	Letherens	1 39	
435 Amamoor	1A, 1B, 1C, 1E, 2A, 2B	Skyring	2 59	
435 Amamoor	1A, 2B, 3A, 7F	Zachariah	4 55	
435 Amamoor	1A, 1B, 1C, 2A	Stoney	4 24	Division of Species
135 Brooloo	4A	Western Creek	2 05	
135 Brooloo	4A, 5A, 8A, 9A, 9C, 10A, 11A, 13A, 14A, 17B, 17C, 20B	Casey Gully	8 42	
82 Brooyar	1	Creek	1 13	
298 Gallangowan	1	Leahy	0 70	Horse Paddock Subdivision
124 Glastonbury	7	Mary Creek	0 16	Extension
220 Kilkivan	6B, 7A, 8A	Gap	1 65	Subdivision
234 Tuhokoi	Extension Block 2 .. .. .	.. .. .	0 43	Taungya
533 Mungore .. .. .	.. .. .	.. .. .	2 06	Road
120 Neumgna	10, 11A	Meandu	1 45	Subdivision
257 Cooyar	1A, 9A, 17, 18	North	0 47	Subdivision
283 Colinton	{ 13	Rocky .. .. .	.. .. .	Subdivision
	{ 20	Benarkin	9 31	
	{ 1A, 1C, 2	Cooyar .. .. .	.. .. .
	{ 12, 13	Yarraman	2 68	
289 Cooyar	{ 5, 6	Rocky .. .. .	.. .. .	Frost and Subdivision
299 Avoca	12	Nanango	2 15	
151, 395 Neumgna .. .. .	.. .. .	.. .. .	8 07	Subdivision Boundary National Park

APPENDIX O.

Forest Reservations for the Year ended 30th June, 1936.

State Forests.—Twenty-three (23) new State Forests, with a total area of 294,367 acres, were proclaimed during the year, the largest being as follows:—

74,750 acres R. 28 Bailey, &c.	.. .. .	Monto Land Agent's District.
45,700 acres R. 328 Amoolee, &c.	.. .. .	Roma Land Agent's District.
39,080 acres R. 35 Bembil, &c.	.. .. .	Dalby Land Agent's District.
33,850 acres R. 86 Brownlie	.. .. .	Dalby Land Agent's District.
22,840 acres R. 67 Grongah	.. .. .	Gympie Land Agent's District.
20,166 acres R. 47 Wongongera	.. .. .	Dalby Land Agent's District.
12,912 acres R. 42 Ballon	.. .. .	Dalby Land Agent's District.
11,400 acres R. 50 Goldsmith	.. .. .	Dalby Land Agent's District.

An area of 7,470 acres was added to an existing State Forest.

Provisional Reserves.—At 30th June, 1936, the number of Timber Reserves was 318, as against 329 at 30th June, 1935. Eight (8) new areas, with a total of 60,619 acres, were reserved, the largest of these being:—

24,670 acres R. 155 Marmadua	.. .. .	Dalby Land Agent's District.
23,400 acres R. 785 Sophia and Trinity	.. .. .	Cairns Land Agent's District.
9,800 acres R. 611 Beerwah	.. .. .	Brisbane Land Agent's District.

Two hundred and seventy thousand and twenty (270,020) acres of Crown land were added to existing reserves in the Cooktown District, and two hundred and sixteen thousand eight hundred and thirty-six (216,836) acres were converted into State Forests.

Seven thousand six hundred and thirty-nine (7,639) acres were released for selection.

National Parks.—Six (6) new National Parks were proclaimed during the year, the largest of these being:—

1,700 acres R. 382 Dunkalli (Dunk Island)	.. .. .	Ingham Land Agent's District.
1,280 acres R. 488 Brampton Island	.. .. .	Mackay Land Agent's District.
1,000 acres R. 21 Crediton	.. .. .	Mackay Land Agent's District.
640 acres R. 453 Gundiah	.. .. .	Maryborough Land Agent's District.

1ST JULY, 1935, TO 30TH JUNE, 1936.

STATE FORESTS.

	Number.	A.	R.	P.
At 1st July, 1935	223	2,338,539	2	33
Proclaimed 1st July, 1935, to 30th June, 1936	23	294,366	3	14
	446			
Crown land added to existing reserves		7,470	0	10
Total reservations at 30th June, 1936		2,640,376	2	17

TIMBER RESERVES.

	A.	R.	P.
At 1st July, 1935	3,436,902	1	37
Cancelled and revoked	7,639	0	13
Converted into State Forests	216,836	0	0
Converted into National Park	600	0	0
Balance	3,211,827	1	24
Additions to reserves	270,020	0	0
New reserves (8)	60,618	2	31
	330,638	2	31
Total reservation at 30th June, 1936	3,542,466	0	15

NATIONAL PARKS.

	Number.	A.	R.	P.
At 1st July, 1935	40	335,892	2	29
Proclaimed 1st July, 1935 to 30th June, 1936	6	5,479	1	31
Total reservations at 30th June, 1936	46	341,372	0	20
Grand total reservations at 30th June, 1936		6,524,214	3	12

APPENDIX P.

State Forests, Timber Reserves, and National Parks at 30th June, 1936.

LAND AGENT'S DISTRICT.	STATE FORESTS.			TIMBER RESERVES.			NATIONAL PARKS.		
	No.	Area.		No.	Area.		No.	Area.	
		A.	R. P.		A.	R. P.		A.	R. P.
Atherton	11	46,919	1 30	5	62,746	2 19	2	2,382	0 0
Bowen .. .. .	..	..	..	9	153,510	0 0	..	..	..
Brisbane	42	122,853	0 25	34	129,099	1 4	15	50,870	2 22
Bundaberg	13	76,246	1 9	28	134,401	2 37	..	..	..
Cairns	4	87,979	0 0	12	466,324	1 20	2	79,070	0 0
Charleville .. .. .	..	..	..	2	20,037	0 0	..	..	..
Charters Towers .. .. .	..	..	..	2	125,550	0 0	..	..	..
Clermont	1	14,500	0 0	4	127,756	0 0	..	..	..
Cloncurry .. .. .	..	..	..	1	4,290	0 0	..	..	..
Cooktown .. .. .	..	..	..	8	623,510	0 0	..	..	..
Dalby	19	543,113	0 38	14	194,475	2 0	1	22,500	0 0
Gayndah .. .. .	..	..	..	12	40,708	1 3	..	..	..
Gladstone	4	35,000	0 0	19	77,822	1 7	..	..	..
Goondiwindi	1	8,623	0 0	1	2,410	0 0	..	..	..
Gympie	25	238,556	3 17	16	81,552	1 34	4	262	2 7
Herberton	6	73,016	2 8	5	64,273	1 10	3	1,040	0 0
Ingham .. .. .	..	..	..	4	243,910	0 0	5	98,896	1 31
Inglewood	9	150,764	2 35	11	34,020	2 15	..	..	..
Innisfail .. .. .	..	..	..	7	204,651	0 38	..	..	..
Ipswich	19	122,732	2 2	22	89,397	1 0	2	4,344	0 0
Jundah .. .. .	..	..	..	1	25,600	0 0	..	..	..
Mackay	2	11,500	0 0	17	248,575	0 0	2	2,280	0 0
Maryborough	21	456,304	0 32	24	64,205	2 4	3	805	0 0
Monto	6	88,112	3 20	12	90,803	0 0	..	..	..
Nanango	37	170,575	2 4	13	27,139	0 25	..	..	..
Rockhampton	3	117,640	0 0	13	112,168	1 20	1	216	2 0
Roma	7	82,474	1 24	1	8,600	0 0	1	65,000	0 0
Springsure .. .. .	..	..	..	1	20,500	0 0	..	..	..
Stanthorpe	2	4,630	1 10	..	..	..	2	10,460	0 0
St. George .. .. .	..	..	..	1	3,072	0 0	..	..	..
Taroom .. .. .	..	..	..	3	13,061	0 0	..	..	..
Toowoomba	14	188,834	2 3	14	31,096	2 28	3	3,245	0 0
Townsville .. .. .	..	..	..	2	17,199	1 31	..	..	..
Totals	246	2,640,376	2 17	318	3,542,466	0 15	46	341,372	0 20

AT 30TH JUNE, 1936.

Total Area reserved for—

State Forests .. .. .	..	..	..	..	2,640,376	2 17
Timber Reserves .. .. .	..	..	..	..	3,542,466	0 15
National Parks .. .. .	..	..	..	..	341,372	0 20
Total Reservations .. .. .	..	..	..	..	6,524,214	3 12

APPENDIX Q.

Distribution of Staff—Sub-Department of Forestry.

	30th June, 1935.	30th June, 1936.
Salaried Staff	130	146
General Staff	537	613
Totals	667	759