
ANNUAL REPORT

OF THE

SUB-DEPARTMENT OF FORESTRY.

FOR THE

YEAR 1946-47.

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HOOP PINE (*Araucaria Cunninghamii*).

A SOFTWOOD OF HIGH QUALITY—THE CHIEF SPECIES IN THE SOFTWOOD PLANTING PROGRAMME.

This plantation is 16 years old, 70 feet high, and pruning of selected trees has been completed. The first merchantable thinning removed 5,000 s. ft. per acre leaving 17,000 s. ft.

Report of the Director of Forests for the Year ended 30th June, 1947.

INTRODUCTION.

The logging and milling industry responded well to the demand for increased supplies of timber during the past year. Despite continued plant and labour difficulties, the mills cut 49,000,000 superficial feet of logs more than in the previous year. The increased output from Crown lands was 36,000,000 superficial feet, while private lands supplied an additional 13,000,000 superficial feet.

The total mill log cut for the year has only been once exceeded—in 1941-42, when some 5,000,000 superficial feet more timber was sawn. This performance is particularly creditable as it was achieved in spite of unfavourable weather conditions. To the end of January drought prevailed; and from January to the end of the year heavy rains were recorded. With normal weather there would have been no doubt that the log cut would have been considerably increased.

Of particular interest is the fact that the increased mill consumption of hardwood and Cypress Pine logs—the chief house-building timbers—was 36,000,000 superficial feet, representing more than 27 per cent. above the previous year's cut.

The figure for cabinet-woods shows an increase of 5,000,000 superficial feet, whilst 9,000,000 superficial feet of logs of miscellaneous species were utilised in excess of the previous year's total.

The Hoop Pine resource is rapidly disappearing, and logging operations are now concentrating on the scattered remnants. Under these circumstances, it is considered that maintaining the cut of the previous year was a satisfactory achievement.

Queensland was originally endowed with what was considered to be inexhaustible supplies of—

- (a) *Hardwoods*—pre-eminent for strength and durability—i.e., Grey Ironbark, Narrow-leafed Red Ironbark, Tallowwood, Grey Gum, &c.;
- (b) *Softwoods* of outstanding quality—i.e., Hoop Pine, Bunya Pine and Kauri Pine; and
- (c) *Cabinet-woods* of special figure and texture—i.e., Red Cedar, Maple, Walnut, Silky Oak, Silver Ash, &c.

Unfortunately, the wood capital, the accumulated growth of centuries, has been decimated. We must depend for our future supplies mainly on the annual growth. The forests must be regarded as tree farms and must be brought into a vigorous growing condition, so that the annual growth will provide an annual crop of wood sufficient to meet our yearly needs.

The forests have been culled of the best trees and the best species for so long that our timber requirements cannot continue to be supplied in first quality timber. For too long has the specification of "first class, free of all defect" prevailed.

The sawmills must operate on what remains in the forest—i.e., on defective trees of the better species and on species of lesser quality. But all this timber has its appropriate use.

Specifications must be altered to meet the altered circumstances and each timber must be applied to its proper use. To assist in this direction, the Forest Service has issued two publications:—

- (1.) North Queensland Building Timbers—Specifications for their Use;
- (2.) South Queensland Building Timbers—Specifications for their Use.

The sapwood of many of our scrub timbers is liable to *Lyctus* borer attack and should be applied only to temporary uses, for which much timber is required. However, large quantities of this timber are well suited to many permanent uses if treated so as to immunise it against borer attack.

The Department has carried out research on this problem and is pleased to report that commercial plants have for some time been treating sawn timbers to immunise them against *Lyctus* attack. This forward step makes available for permanent use considerable quantities of timber which would formerly have been wasted.

The age of the big tree is rapidly passing. Many of the large trees now being logged have taken centuries to attain their present sizes. Before long large specimens will remain only in the "living museums"—i.e., the National Parks. It will never pay to grow trees to these dimensions in future, as it will be cheaper to synthesize large dimensions from small timber. Wide boards can be built up in the form of plywood, or as solid wood by means of jointers. Large trusses can be constructed by lamination and gluing of small sizes and even by nailing of small dimensions. The use of timber connectors allows of use of small sections in lieu of larger-dimension stock.

The small trees that are produced from early thinnings of plantations are yearly making a more effective contribution to our timber needs. During the year some 2,005,385 superficial feet of this class of timber was marketed, and the volume available annually should rapidly increase to about 10,000,000 superficial feet. After some hesitancy on the part of the trade in accepting plantation thinnings, recent sales have attracted considerable interest.

Queensland requires over 40,000,000 superficial feet of sawn timber each year to meet her box and case needs, and the maintenance of this supply presents considerable difficulties. Recently the Committee of Direction of Fruit Supply commenced a "Grow your own Fruit Cases" campaign in collaboration with the Department. In a short period the Department had received 164 applications from fruitgrowers for trees to plant 409 acres.

During the war planting operations were suspended, and the loss of this planting will have its effect on the yield of timber from plantations some eight to ten years hence.

It is pleasing to record that during 1946-47 it was possible to again resume planting, although not on a full scale. Shortage of suitable bush labour, particularly for scrubfelling work, was the limiting factor. It was a creditable performance in the circumstances to plant some 2,370 acres, and it is hoped that planting will reach its normal level in 1947-48.

The reluctance of many potential employees to accept or remain on bush work has been most noticeable during the year. At one stage the employment of 1,100 men resulted in an increased staff of only 100; the remainder finding bush work not to their liking.

With this difficulty in securing labour, every endeavour is being made to mechanise operations as much as possible and substantial plant purchases were made during the year.

Tests of various types of wireless sets have been carried out and the Department is much closer to securing wireless equipment that will meet Queensland's needs in providing range, reliability, and mobility, plus an alarm system for contacting gangs in emergencies. These advances will contribute in particular to the protection of our forests against fire.

The Department is still endeavouring to acquire by repurchase much of the formerly alienated forest land that should form part of Queensland's permanent forest estate. 105,409 acres were added to the total of reserved forest during the year.

REFORESTATION.

Though it was possible by the close of the year to have built up a wages staffing on reforestation works to a strength numerically equal to that of pre-war, shortage of labour for certain of the higher-skilled operations has had an appreciable effect. In the softwood planting programme—the most important aspect of operations—this has been most evident. Although planting stock was available for well over 3,000 acres and this target was aimed at, the total planting for the year, because of inability to have further areas cleared, totalled only 2,369 acres.

It was possible, however, to restore all planted areas to a satisfactorily tended condition, while the leeway in pruning work has been largely overtaken.

Further sales of plantation thinnings were made, covering a total quantity of over 4,000,000 superficial feet. Removals under some sales had not commenced at the close of the year and the total quantity actually cut amounted to just over 2,000,000 superficial feet. The establishment of yield plots on the older planted areas has progressed sufficiently to enable the preparation of a ten-year thinning plan to be now undertaken.

Plots established some years ago on similar soil types have given results sufficiently encouraging to proceed with the conversion of the low-grade hardwood forest of the coastal country south of Maryborough to softwood plantations. Soil survey and nursery construction were put in hand and it is hoped to inaugurate a planting in the winter of 1948.

Work on the natural hardwood and Cypress Pine forests was stepped up considerably above last year's operations. Silvicultural treatment was accorded to approximately 55,000 acres, while the first planting of eucalypts to restock cleared areas in acquired forest lands was made near Pomona.

Protection works saw the addition of over 200 miles of new firebreak to the system.

THINNING OUT CASE TIMBER TO STIMULATE
QUALITY TIMBER PRODUCTION.



MARKING TREES TO BE REMOVED IN THE FIRST THINNING.

The final crop will come from the best trees which have already been selected and pruned. The largest malformed trees, removed in the first thinning, produce much needed case timber.



THE SAME AREA AFTER FIRST THINNING HAS BEEN COMPLETED IN THE FOREGROUND.

5,000 s. ft. per acre of merchantable timber has been removed. The growth will now be concentrated on the best trees, which will receive later thinnings, leaving outstanding trees to produce a valuable final crop.

Orders were placed for the first of the automobile radio traneivers built to this Department's specifications. These will be given trial in the next fire season.

Expansion of operations necessitated the transfer of several of the officers engaged in land acquisition work to other duties. However, acquisition of many areas was completed during the year.

Thirty-two properties, totalling 20,387 acres, were secured by purchase at a cost of £13,537, while eight areas (19,288 acres) were resumed. Action was finalised during the year on resumed areas, totalling 5,039 acres, at a cost of £4,131.

During the past four years straight-out purchases of 65,600 acres (115 properties) at a cost of £44,670 have been made. In the same period, 31 properties involving a total acreage of 47,957 have been resumed. Of the resumed areas, compensation on 16 properties (24,579 acres) has been finalised at a cost of £5,027.

Reference was made last year to the generosity of two donors for their free grants of land for forestry purposes, and it is with considerable pleasure that I can report this year a generous offer by Mr. Inigo Jones of 100 acres of his property at Crohamhurst.

Forest inventory survey work was pushed ahead to the limit of the number of survey parties it was possible to build up. The first work of this nature was carried out on a Cypress Pine-Ironbark forest near Millmerran in 1940. Remeasurement of the plots was carried out during the war. With the co-operation of the Bureau of Industry, who have made available for this work their statistical recording machines and operators, the data are now being examined, but conclusions are not yet available.

As indicated above, reforestation employment has been gradually increased during the year, from 876 at 1st July, 1946, to 1,180 at 30th June, 1947, a figure of approximately that of 1941, but well below that necessary to carry out the projected programme. The difficulties associated with securing labour referred to in last year's report obtained this year also. A net increase of 86 took place between 1st January and 30th June, 1947 (1,338 to 1,424). During this period 929 new employees were engaged and 843 left the job. The net increase in reforestation staff during the same six months was only 40.

Plantations.—The total area of 2,370 acres planted for the year comprised—

	Acres.
Hoop Pine	1,530
Kauri Pine	57
Exotic species	596
Hardwoods	169
Other species	17
	2,369

This brings the total plantings to 30th June, 1947, to 34,816 acres (details in Appendix I.). Planting conditions generally for the summer plantings were good, but for the first time it was necessary, in view of the dry winter of 1946, to discontinue planting at Glasshouse Mountains and tube the stock for later planting.

Tending of established areas covered an area of 13,556 acres, while 2,359 acres were pruned. Approximately 430 acres were merchantably thinned for the first time and yielded a cut of 2,005,000 superficial feet. This raises the plantation thinning yield to date to 6,562,000 superficial feet.

Nurseries.—Twenty-two nurseries were in plant production at the close of the year, while a start had been made on the construction of an additional nursery preparatory to initiation of softwood planting operations on the coastal country just south of Maryborough.

Nursery output for the year totalled 1,562,000 plants, while stock at 30th June, 1947, amounted to 6,576,000.

Supply of Trees to Public.—There was a growing demand for young trees for planting during the year, and it appears certain that this demand will continue to increase in 1947-48.

The major factor in this increase in tree consciousness is the "Grow Your Own Case Timber" campaign launched by the Committee of Direction of Fruit Marketing. This has resulted in orders for plants being received from all over the fruitgrowing sections of Queensland.

Interest in School Forestry Plots was well maintained and several new plots have been established.

Trees supplied to the public during 1946-47 were—

For establishment of plots	79,052
Windbreaks, shade, ornamental, &c.	14,866
School plots	6,988

Seed Collection.—Approximately 200 lb. of *Pinus taeda* seed and 300 lb. of *Pinus caribaea* seed were collected during the year. The collection was entirely from selected parent trees, of good form and vigour. The seed collected is of particularly high quality, germination capacity ranging from 80 per cent. to 93 per cent.

Natural Forests.—Details of the area treated during the year are shown in Appendix J.

Briefly, the position was—

	First Treatment.	Other than First Treatment.	Total.
	Acres.	Acres.	Acres.
Hardwood	13,934	32,322	46,256
Cypress Pine	5,092	3,755	8,847
	19,026	36,077	55,103

The total acreage subjected to at least one treatment became 455,300 acres.

Research.—Forest Research has not yet been resumed on a full scale, but it is hoped that, with the return of a number of officers whose training was interrupted by war service and who are in their final year at Canberra, the work will be greatly expanded next year.

Once more all that was possible was to maintain existing long-term experiments and to establish a small number of additional experiments on urgent and important problems.

A second Free Growth experiment with *P. taeda* in the Beerwah district is now seven years old. Results to date conform strikingly with those given by the initial experiment which is now thirteen years old. Figures show that 250 stems per acre are no longer free growing at age seven years. There remain 12 plots which have been kept free from the zone of suppression, and it is hoped that these will enable data to be collected down to stocking of 40 to 50 per acre. The initial experiment involved only 10 plots in all and free growth observations finished at 160 per acre, which were in the zone of suppression at the end of the eighth year.

In the Brisbane Valley, too, Free Growth experiments with Hoop Pine have given consistent and interesting responses. The oldest of these is now 12½ years in age and a large-scale experiment was initiated in adjacent unthinned material of the same age which, in October, 1946, had been five years in the suppression zone. The response to all degrees of thinning was immediate and the most drastic treatment (reduced to only those stems which had been selected for carry-up pruning—170 per acre) doubled the girth increment of the unthinned. Increments were .86 inches unthinned and 1.71 inches select only.

All increments compared favourably with those given by corresponding spacings in the Free Growth plots.

Adequate plots are held for thinning on a merchantable basis when the stand is sufficiently developed.

In the Mary Valley, results from thinning experiments and from spacing and Free Growth plots have not shown the same response as in the drier Brisbane Valley. Openings in the stand are followed by vigorous growth of weed species, and this affords a possible explanation.

During the year the series of Yield Plots in plantations was extended to cover advanced stands in the Brisbane Valley and the Passchendaele areas. It is hoped that in the near future all plantations ten years or more in age will be covered by a 2½ per cent. sample.

The use of arsenate of lead in seed beds to control white grub damage to Hoop Pine has passed the experimental stage. Stock from treated beds showed a relatively high quantity of arsenic trioxide in the plants and transferred to the field have given results which indicate that they remain unpalatable to the white grub in the field.

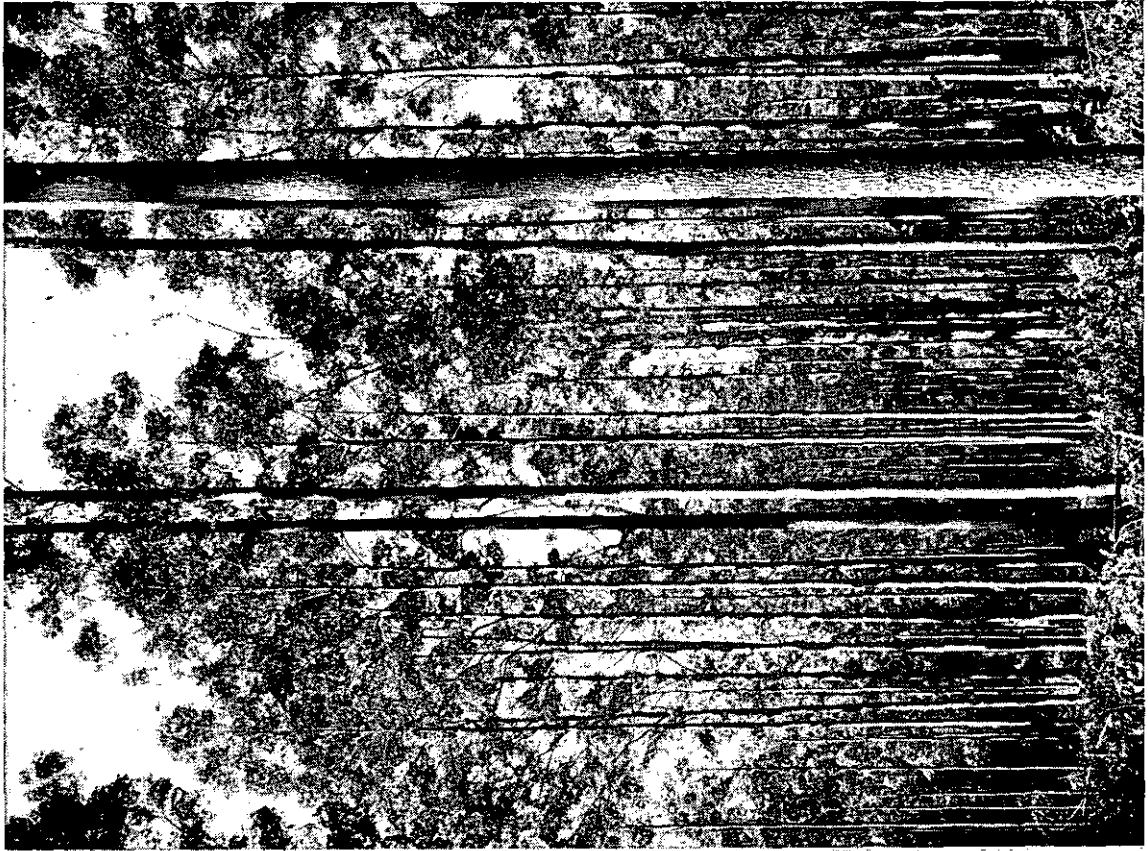
During the year one of the most severe droughts on record was experienced and data were assembled from school plots and forest districts throughout the State on the behaviour of the main plantation species. Hoop Pine was outstanding in its resistance to drought, and it is fortunate that this is the main species in the State's planting programme. Of the exotics in use to any extent, *Pinus patula* stood the drought better than did *Pinus caribaea*, which was better than *Pinus taeda*. *Pinus longifolia* has been planted only to a limited extent, but no losses were recorded with that species.

In coastal North Queensland, trial plantings were made with Balsa (*Ochroma lagopus*) in localities of favourable soil and rainfall.

Twenty-year-old trial plots at Maryvale, near Rockhampton, have given sufficiently encouraging results to warrant plans for the planting of the area sampled. It is interesting to record that one of the most promising species is *Pinus insularis*.

During the year large-scale experiments on the treatment of North Queensland rain forests were designed. These experiments open a new and wide field of forest research.

GROWING WOOD.



TREATED NATURAL REGENERATION OF HARDWOOD.
GYMPIE DISTRICT.

55,103 acres of hardwood and cypress pine were subject to natural regeneration treatment during the year.



PRIVATE PLANTATION OF PINUS TAEDA.

Planted on an old pineapple cultivation, a stand of 18,000 s. ft. per acre of merchantable wood has been grown in 8 years.

The "Grow your own case timber" campaign initiated by the Committee of Direction of Fruit Marketing in conjunction with the Department has resulted in 164 applications for trees to plant 409 acres.

Protection.—Though conditions generally throughout the fire season did not constitute any very serious hazard, there were two periods—end of September and end of November—when the risk rose. The total area burnt over was relatively low, while the area of protected forest included in this total was also small. The only plantation loss was an area of 44 acres of Hoop Pine and Silky Oak in the Brisbane Valley district. This stand was sufficiently advanced to enable the logging of most of the stand.

The only other fire that caused serious worry was one which threatened the thinned Blackbutt stands at Mapleton. Though the fire burnt over about 4,000 acres, this was confined almost entirely to unprotected area and there was no loss in the younger treated area.

The stepping-up of staffing on the natural forests enabled a considerable expansion of firebreak construction and improvements works.

In summary, the main firebreak works carried out during the year were—

(1) *Cleared Breaks* (western forests).

Firebreak construction—						Miles.
Cutting and grubbing	..	..	..	..	..	67.38
Stacking and burning	..	..	..	..	..	73.12
Cutting auxiliary roads	..	..	..	..	..	21.46
Firebreak improvement—						
Grubbing roads	..	..	..	..	..	26.44
Grading	..	..	..	..	..	30.80
Green strips	..	..	..	..	..	247.43
Firebreak maintenance—						
Suckering and burning	..	..	..	..	..	920.10
Grading	..	..	..	..	..	504.10

(2) *Green Breaks* (coastal hardwood areas)—

Firebreak construction—						
Felling dangerous trees—						
Stacking and burning	..	..	..	..	..	119.75
Firebreak improvement	..	..	..	..	..	37.25
Firebreak maintenance—						
Chipping and/or ploughing	..	..	..	..	..	1,060.30
Burning	..	..	..	..	..	671.00
Roads	..	..	..	..	..	345.00

(3) *Cleared Breaks* (plantations)—

Firebreak construction—						
Temporary breaks for scrub burning	..	..	..	..	..	22.5
Clearing	..	..	..	..	..	39.4
Firebreak maintenance—						
Chipping	..	..	..	..	..	104.50
Ploughing	..	..	..	..	..	113.60
Burning	..	..	..	..	..	116.10

Capital Improvements.—Effort was continued to bring all buildings to a satisfactory condition of maintenance, but shortage of paint precluded work proceeding to this stage.

Construction was concentrated within the limits imposed by shortages of materials on improved industrial conditions for the wages staff. Galleys and bathrooms to new design were erected, while a start was made in the construction of barracks to house employees at permanent camps.

Expenditure and Labour.—Details of the expenditure on reforestation works for the year are shown in Appendix H.

The total—£402,751—which is the greatest annual expenditure to date, was comprised as follows:—

	£
Plantations	63,884
Natural regeneration	20,110
Nursery working expenses	16,593
Protection (including firefighting)	111,632
Research	2,047
Capital improvements	21,945
Surveys	4,228
Wet time, holidays, leave	50,385
Tools, tents, cartage, supervision	87,923
Workers' compensation	7,663
Pay roll tax	8,474
Miscellaneous	7,867
	<u>£402,751</u>

Expenditure on land acquisitions was £18,157.

The difficulties experienced in securing labour have been referred to previously. The figure of 1,180 engaged on reforestation works at the close of the year is slightly above the previous highest pre-war figure. Though expenditure was over £100,000 greater than any previous year the lower standard of labour and the very large turnover in men has resulted in considerably less effective work than in normal years.

RURAL FIRES.

"The Rural Fires Act of 1927" remained effective during the year, and, as has been the case since 1929, the Rural Fires Board was comprised of the members of the Forestry Board, with the Secretary of the Forestry Sub-Department as Secretary. All work under this Act is carried out by Government officers who do not receive any extra remuneration for their services.

A new Act, "The Rural Fires Act of 1946," was passed by Parliament, but has not yet been gazetted into force. The new Act aims at generally strengthening the control of rural fires. It provides for the organisation of bush fire brigades, with specific powers; strengthens the position of officers under the Act; gives wider scope for prompt measures to be taken in case of outbreaks; and affords some protection for persons observing proper precautions.

During the year reports reached the Board's office of 144 outbreaks of fire—summarised as under:—

Magnitude of Fires—

‡ Acre or Less.	‡ Acre to 10 Acres.	Over 10 Acres and under 100 Acres.	100 Acres and Over.
5	42	49	48

Causes—

Lightning.	Camp Fires.	Smokers.	Debris Burning.	Railways.	Deliberate Burning.	Miscellaneous.	Unknown.
5	6	1	25	7	13	4	83

Total Reports—144.

Four offenders in cases of breaches of the Act were prosecuted and fines totalled £25.

FOREST SURVEYS.

Seven fully equipped survey camps operated throughout the financial year.

Total expenditure for survey work amounted to £14,487 15s. 8d., of which £10,260 3s. 6d. was chargeable against Harvesting and Marketing projects and the balance, £4,227 12s. 2d., against Reforestation projects.

As a result, 8,000 acres were dealt with by intensive contour and assessment survey, 220,332 acres were assessed, 23,558 acres were subjected to firebreak, compartment or soil survey, and 57,462 acres were closely inspected.

In addition, 2,107 plots were dealt with by Forest Inventory Survey (*vide* appendices to this report).

Miscellaneous district surveys and inspections, mainly concerned with planting and repurchase projects, were carried out as required.

Summary of mileage completed is given hereunder:—

	MI.	ch.
Compass and chain	455	74
Compass and step	2	37
Strip survey	820	56
Old boundaries	38	25

Atherton District.—Three camps operated. One was engaged on Class 3 survey of approximately 8,000 acres on Kirrama State Forest (Res. 344, parish of Bankton), while isolated patches of jungle, amounting to 2,000 acres, were located and estimated on Kirrama Holding. In May, this camp was shifted to Reserve 350, Niagara (also at Kirrama), where a Class 2 survey is proceeding.

The second camp completed the assessment of portions 531 to 534, 541 and 542, parish of Dirran (Millaa Millaa district), shifting to Reserve 353, Ongera (Ravenshoe district), towards the end of July. However, this work was temporarily suspended as an estimate of the McNamee Creek area (Res. 756, Jordan) was required. This survey was completed by 15th November, and camp was re-established on Reserve 353, Ongera, where survey is still proceeding. Field work was particularly arduous in rugged jungle and packhorses were used continuously. Miscellaneous survey work included the laying out of experimental plots on Reserve 185, Danbulla, and the opening up of boundaries on National Park 904, Palmerston.

The third camp, which was organised by 14th January, carried out a tree-to-tree estimate of portions 40, 57, 58, 60, 62, 217, Ravenshoe, and portions 10 and 24, Woodleigh. Camp was then shifted to Reserve 30, Garioch (Mount Molloy district), with instructions to carry out Class 2 survey of unassessed areas near Mount Fraser and Mount Lewis. This work was proceeding at the end of report period.

Details of mileage hereunder:—

Reserve Number.	Parish.	Compass and Chain.		Strip Survey.		Old Boundaries.	
		Miles.	Chains.	Miles.	Chains.	Miles.	Chains.
353	Ongera	26	22	54	17	..	..
756	Jordan	12	59	25	74	..	..
Portions	Dirran	..	..	23	25	..	..
904	Palmerston	6	13	..	..	..	..
344	Bankton	38	9	49	51	..	..
..	Kirrama Holding	22	39	16	49	..	..
350	Niagara	6	46	..	..	21	40
Portions	Ravenshoe	2	19	104	24	7	43
30	Garioch	7	12	..	64	9	22

Maryborough District.—Following a reconnaissance survey of 200,000 acres in the parishes of Ferguson, Walliebum, Vernon, Walsh, Elliot, South Head, Poona, Bidwell, Tahiti, and Cowra, involving 49 miles of soil strip survey, a camp was organised to operate on the sandy soils in the parishes of Poona and Bidwell. A nursery site was located on Big Tuan Creek and direct access road surveyed to the main Bidwell road. It was necessary to clear 24 miles of old timber roads and to locate and clear 17½ miles of new motor tracks to obtain necessary access for survey operations.

At the end of the report period soil survey and estimate of 3,000 acres had been completed, involving 47 miles 76 chains of compass and chain traverse and 93 miles 19 chains of strip survey.

Miscellaneous surveys included compass and chain traverse of 6 miles 46 chains for plantations on Reserve 220, Kilkivan, and Reserve 298, Gallangowan (Manumbar), while 19 miles 25 chains of road survey were run on Reserve 435, Gundiah.

Gympie District.—From 1st July to 10th November camp was engaged on firebreak, compartment road surveys of 3,558 acres in the Tewanin repurchased areas. Assessment surveys of portion 49, King, area 714 acres, portion 260, Tuchekei, area 176 acres, and inspection of plantable scrubs on Reserve 392, Como, were also made from this camp.

On 11th November camp was shifted to the Mary Valley, where a number of fire-break and planting surveys were carried out on Reserves 135 and 274, Cambroon (near Kenilworth).

On 19th March camp transferred to Reserve 124, Glastonbury, where firebreak survey was effected in respect to Moororeerai, Falls, and Shacks logging areas. Field work was nearing completion at the end of the report period.

Summary of work completed:—

Reserve.	Parish.	Compass and Chain.		Strip Survey.		Compass and Step.	
		Miles.	Chains.	Miles.	Chains.	Miles.	Chains.
Portions	Tewanin	47	66	..	..	..	..
Portion 49	King	1	77	8	10	..	..
R. 135	Cambroon	6	67	..	..	2	37
R. 135	Brooloo	15	64	..	..	..	..
R. 274	Cambroon	2	38	..	..	..	..
R. 124	Glastonbury	14	72	1	60	..	..
R. 242	Widgee	..	42	1	63	..	..
Portion 260	Tuchekei	1	40	..	..	..	..

In addition, 40 plots were located and established, while 110 plots were remeasured on Reserve 135, Brooloo, by a Forest Inventory Camp, which shifted to the Brisbane Valley district on 16th December.

Dalby District.—Two camps were engaged on Forest Inventory Survey, being mainly confined to remeasurement of established plots on Reserve 154, Brigalow, Reserve 150, Dunmore, and Reserve 16, Malcolm and Ballon. In addition, 89,266 acres were stripped and 6,000 acres of compartments redesigned and run, whilst 11,000 acres of Reserve 16, Ballon, were treated to compartment survey and 40,000 acres stripped.

Summary of work is set out hereunder:—

Reserve Number.	Parish.	New Plots.	Plots Re-measured.	Compass and Chain.		Strip Survey.	
				Miles.	Chains.	Miles.	Chains.
154	Brigalow .. .. .	..	173	..	..	..	..
150	Dunmore .. .. .	..	125	..	..	..	..
16	Malcolm .. .. .	..	923	3	00	..	..
14	Hookswood .. .. .	..	..	..	..	..	..
47	Wongongera .. .. .	..	..	55	39	254	00
86	Brownlie .. .. .	..	..	..	..	..	..
54, 16	Ballon	228	..	24	00	187	00

NATIONAL PARKS.

Not the least important work entrusted to the Forestry Sub-Department is the care and management of National Parks.

The purpose of these reservations is cultural, and on a recognition of this fact the policy adopted by the Department has been based. Therefore, not only the recreational and scenic but also the educational and scientific aspects have been considered, and in reconciliation of all these the aim has been to preserve unspoiled and intact some fragments of Australian bushland and to give protection to its denizens.

As the processes of clearing, ringbarking, and fire destruction continue, these areas, if they can be preserved along the years, will be of outstanding value and an increasing source of delight to educationists and scientists, of recreation to the workworn, and of enchantment to those who delight in the unmarred beauty of woods and waterfalls, peaks and cliffs, and lake, river, and shore.

Perhaps the chief value of the National Parks ideal, however, is in the uplifting effect on the national tone, in offsetting the blatant commercialism all too prevalent. Truly there are commercial values in the National Parks; these can be "cashed" and yet leave the country and its people immeasurably poorer. By wise use, these assets would not be squandered, but kept for all generations.

To achieve this, any "development" of the parks must be based on the cardinal principle that they must be preserved as far as possible in that simplicity and unspoiled beauty that makes them unique, and not formalised and cheapened to the level of hundreds of "tourist resorts" to be found everywhere throughout the world.

In this direction the policy of the National Parks Service of the United States of America—without doubt the most advanced in the world—is worthy of the most careful study, with a view to application of its successes and avoidance of its mistakes.

The year marked a very pleasing increase in activity in National Park work, and increased financial provision enabled the Department to carry out much needed repair and maintenance work on tracks and other works and as well to carry out some new construction. Heavy rains early in 1947 made maintenance costs high on all parks.

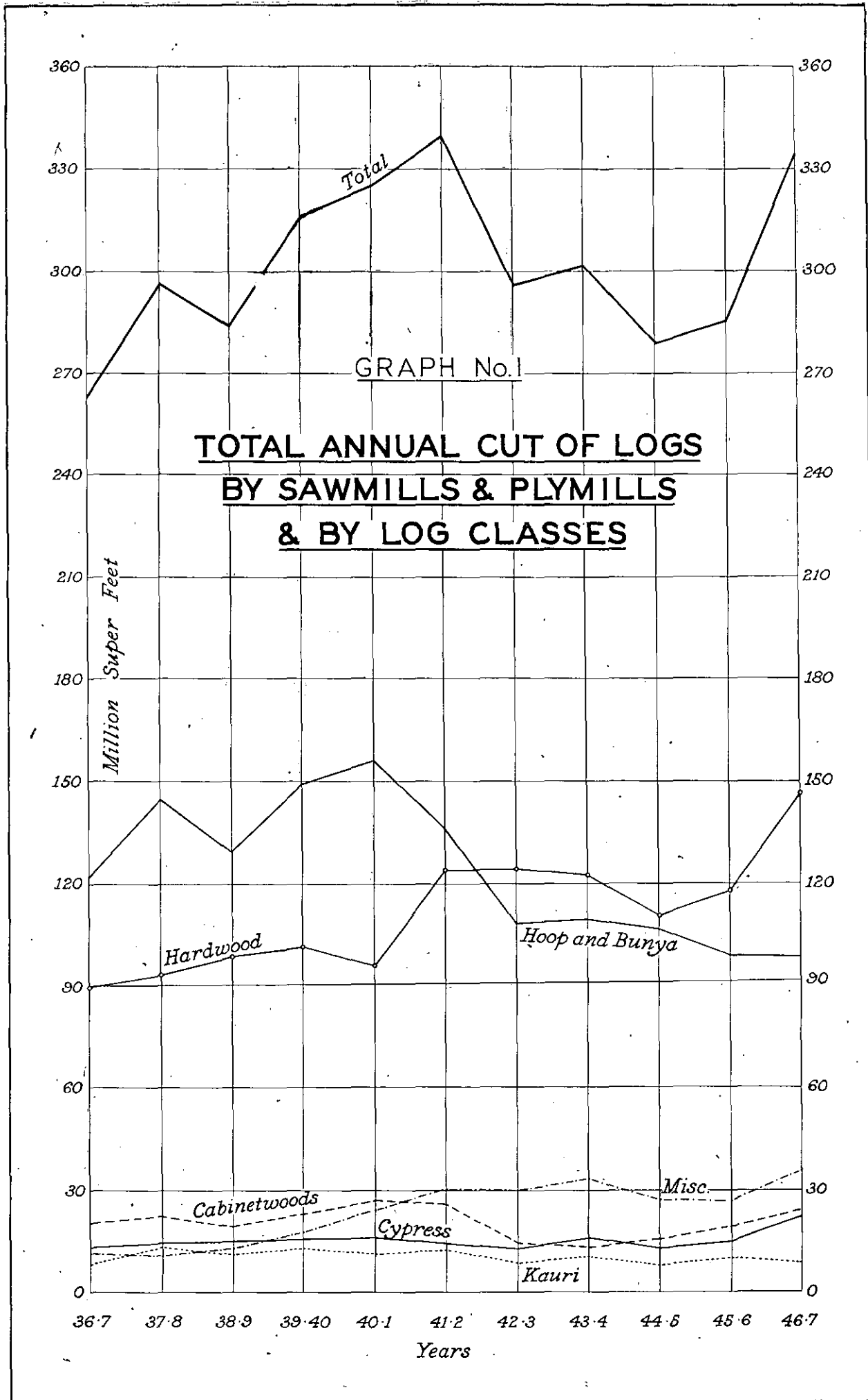
The parks on which work was done were—

Lamington.—Here, over 86 miles of track were maintained and 29 chains of new track were constructed. Track extensions have been located and pegged.

Tamborine.—New track construction included 14 chains at Joalah Park, 53 chains at Palm Grove (where a new lookout and picnic spot were made easily accessible) and 4 chains on the State Forest Beauty Spot at Cedar Creek Falls. Maintenance of 6½ miles of track was carried out, while heavy infestations of lantana were eradicated. Extensions of tracks have been located.

Springbrook.—At Warree and Gwongorella National Parks 139 chains and 115 chains respectively of new tracks were constructed, while 9½ miles and 3½ miles of track respectively were maintained. Track extensions have been marked.

Cunningham's Gap.—Completion of the track to the top of Mount Mitchell provides a highly interesting and scenic walk. In all, 117 chains of new track were made and 6 miles maintained. Owing to impermanency of Gap Creek, wells were located and sunk, good supplies of water being obtained for administrative and camping requirements.



Bunya Mountains.—New tracks constructed here totalled 198 chains and gave walks with panoramic views along the Eastern Cliffs, taking in the Big Falls. The road through the park was put into order and maintenance given to over 9 miles of tracks. Buildings and huts for administrative purposes were bought and re-erected.

Mount Glorious.—Tracks were made on Maiala National Park and on the Beauty Spot on the adjacent State Forest, totalling 36 and 155 chains respectively, while a mile of existing track was kept in order. An area of Maiala Park, cleared before its reservation, is being replanted. Heavy growths of the introduced lantana have been eradicated from this park.

Lake Eacham.—Restoration of rain damage and washaways during war years involved construction of 60 chains of track. Landing stage and bathing facilities at the lake were improved, while a new boatshed was provided. Lantana and wild tobacco are being removed.

Lake Barrine.—As at Lake Eacham, new construction was necessary to restore the former track system. In all, 120 chains were built, and the lake is completely encircled. Tobacco and lantana are being dealt with.

Green Island.—A new jetty was built, to replace that destroyed by cyclone in March, 1946, at a cost of £3,308 5s. Protective groynes were repaired. This work was carried out with customary efficiency by the Cairns Harbour Board's employees, and the Department's thanks are due to the Board and its officers, particularly Mr. A. C. Nicholson, engineer.

At the end of the year the length of tracks constructed and in good order on the various National Parks was as follows:—

	Chains.
Lamington	6,935
Tamborine Mountain (Joalah)	78
Tamborine Mountain (Palm Grove)	313
Tamborine Mountain (R. 326 Cedar Creek)	4
Tamborine Mountain (McDonald Park)	60
Tamborine Mountain (Witch's Falls)	157
Springbrook (Warree)	751
Springbrook (Gwongorella)	256
Cunningham's Gap	585
Bunya Mountains	742
Mount Glorious	269
Lake Eacham	351
Lake Barrine	310
	10,811 or 135 Miles.

In addition, there are several miles of tracks on Crater and Tully Falls National Parks (North Queensland), which will be put in order this year.

In all, £22,864 were spent on National Parks work in 1946-47, and £371 in supervision, inspections, and incidental expenses. The average number of men employed was 59 and at 30th June, 1947, 52 men were engaged on National Park work.

An additional ranger was added to the National Parks permanent force during the year.

HARVESTING AND MARKETING.

General.—Because of the great need for timber to meet urgent post-war requirements, every effort was made to increase production, with the result that the highest output of logs since 1941-42, when a record cut was established, was achieved. This achievement is regarded as satisfactory considering the shortage of fellers and unfavourable weather for logging which prevailed early in 1947. The Department and sawmillers have both had difficulty in securing the services of competent fellers, despite increases in the award rates.

The particular increase in production was in the timbers most vital to housing needs—the hardwoods and Cypress Pine. The following table indicates the trend in logging from Crown lands:—

CROWN MILL LOG CUT.

Species.	1940-41.	1941-42.	1946-47.
	Super. Feet.	Super. Feet.	Super. Feet.
Hoop and Bunya Pine	146,056,000	127,390,000	94,119,000
Kauri Pine	9,584,000	12,010,000	8,957,000
Cypress Pine	5,628,000	7,823,000	12,375,000
Hardwoods	33,847,000	43,528,000	59,257,000
Cabinet-woods	25,307,000	26,771,000	22,927,000
Miscellaneous	7,381,000	9,685,000	20,618,000
Plantation timbers .. .. .	..	187,000	2,005,000
Total	227,083,000	232,394,000	220,258,000

The marked increase in the cut of constructional timbers is most noticeable. The cut of Hoop and Bunya Pine and Kauri Pine and the cabinet-woods has decreased.

The heavy output of logs taxed the resources of the Railway Department in providing wagons, and although at times there was congestion of logs at some sidings it was not necessary to suspend logging activities.

The demand for logs by North Queensland sawmillers was particularly heavy and did not leave any surplus for sawmills in South Queensland, except Walnut for veneer purposes. The log cut from Crown lands in North Queensland was the highest that has yet been recorded—56,000,000 superficial feet. The previous highest figure was 46,000,000 superficial feet in 1941-42.

Mill Logs.—The following table indicates the total quantity of logs cut from Crown forests for each year since 1937-38, and reveals that over the last ten years the Crown forests have averaged an output of 205,000,000 superficial feet of log timber annually.

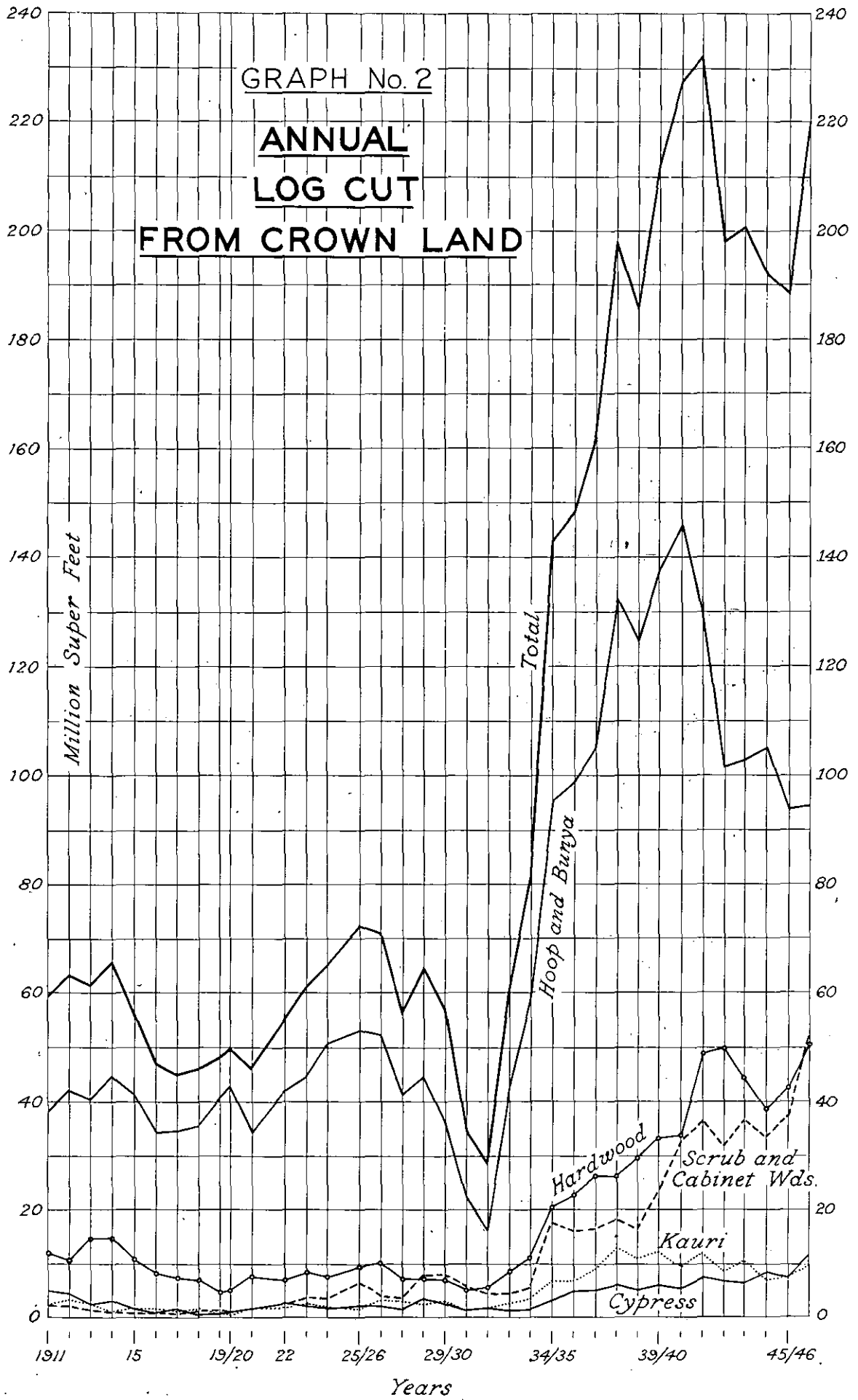
	Super. feet.
1937-38	196,000,000
1938-39	186,000,000
1939-40	212,000,000
1940-41	228,000,000
1941-42	232,000,000
1942-43	199,000,000
1943-44	202,000,000
1944-45	193,000,000
1945-46	190,000,000
1946-47	220,000,000

The Timber Business, 1946-47.

CROWN SALES.

(a) Mill Logs—	1945-46.	1946-47.
Hoop and Bunya Pine ..	93,703,000 super. feet	94,119,000 super. feet
Forest Hardwoods ..	42,393,000 super. feet	51,029,000 super. feet
Scrub Hardwoods ..	5,643,000 super. feet	8,228,000 super. feet
Cypress Pine	7,532,000 super. feet	12,375,000 super. feet
Kauri Pine	7,798,000 super. feet	8,957,000 super. feet
Cabinet Woods	16,315,000 super. feet	22,927,000 super. feet
Miscellaneous Species ..	15,258,000 super. feet	20,618,000 super. feet
Plantation Timbers ..	907,000 super. feet.	2,005,000 super. feet
Total Crown Mill Logs ..	189,549,000 super. feet	220,258,000 super. feet
 (b) Constructional Timbers—		
Headstocks, Transoms, Crossings	592,000 super. feet	813,658 super. feet
Sleepers	552,000 pieces	398,000 pieces
Girders, Corbels, Piles, Sills	103,000 lineal feet	120,000 lineal feet
Poles	309,000 lineal feet	405,000 lineal feet
House Blocks	293,000 lineal feet	339,000 lineal feet
Mining Timbers	377,000 lineal feet	523,000 lineal feet
Mining Timbers	137,000 pieces	153,000 pieces
Gross Receipts from Timber Sales	£914,824	£988,910
Net Revenue	£349,150	£402,340

GRAPH No. 2
ANNUAL
LOG CUT
FROM CROWN LAND



A comparison has also been made of the various species of log timbers cut from Crown lands during the past five years, as shown by the following figures:—

Year.	Hoop and Bunya Pine.	Kauri Pine.	Cabinet-woods.	Hardwoods.	Cypress Pine.	Scrubwoods.
			(1,000 superficial feet)			
1942-43	101,289	8,627	15,250	49,649	6,776	16,116
1943-44	102,790	10,443	11,315	44,251	6,518	25,442
1944-45	104,855	7,028	12,992	38,013	8,476	†14,280
1945-46	93,703	7,798	16,314	42,392	7,532	*6,141
1946-47	94,119	8,957	22,927	51,029	12,375	†15,258
						*5,643
						†20,618
						*8,228

* Scrub Hardwoods.

† Miscellaneous.

Crown and Private Log Cut, 1946-47.—The log cut from both Crown and private lands for the year 1946-47 is given in the following table, which also shows the percentage of the total cut that is secured from Crown lands.

Species.	Crown.	Private.	Total.	Percentage Crown of Total.
	Super. feet.	Super. feet.	Super. feet.	
Hoop and Bunya	94,119,000	246,000	94,365,000	99
Kauri	8,957,000	..	8,957,000	100
Cypress	12,375,000	9,895,000	22,270,000	55
Hardwood	59,257,000	86,532,000	145,789,000	41
Cabinet-woods	22,927,000	2,111,000	25,038,000	92
Miscellaneous	20,618,000	15,783,000	36,401,000	57
Totals	218,253,000	116,295,000	332,820,000	65
Plantation timbers	2,005,000	..	2,005,000	..
Imported timbers .. .. .	..	..	180,000	..
Hardwood into sleepers .. .. .	..	..	14,333,000	..
Grand Totals	220,258,000	116,295,000	349,338,000	..

Logging.—Heavy rains in February and March, 1947, almost entirely suspended logging in South Queensland.

During 1946-47, the following quantities were hauled by and payments made to contractors to the Department:—

Class.	Quantity.	Expenditure.
	Super. feet.	£
South Queensland—		
Hoop and Bunya Pine	65,079,179	
Forest hardwoods	1,930,944	
Scrub hardwoods	548,976	
Miscellaneous	1,840,864	
Red Cedar	87,090	245,977
	69,487,053	
North Queensland—		
Kauri Pine	7,947,176	
Cabinet-woods	16,857,683	
Forest hardwoods	2,382,518	
Scrub hardwoods	4,619,002	
Miscellaneous	9,738,545	175,731
	41,544,924	
Totals	111,031,977	£421,708

The Plywood Industry.—Returns received from plywood and veneer mills give the following approximate quantities of logs treated and deliveries made for the year 1946-47. The logs supplied to these mills were from both Crown and private lands.

	Logs.	
	1945-46.	1946-47.
	Super. feet.	Super. feet.
Hoop and Bunya Pine	12,082,000	13,838,000
Kauri Pine	3,754,000	3,515,000
Hardwoods	15,000	397,000
Cabinet-woods	1,964,000	3,410,000
Secondary woods	2,378,000	5,162,000
Totals	20,193,000	26,322,000

The Plywood and Veneer Marketing Board reports that the year's operations show an increase in production of 10,399,629 square feet over the previous year, 3,679,211 square feet by the Northern Board and 6,720,418 square feet by the Southern Board. The increase has been made possible mainly through the usage of a greater quantity of secondary timbers.

The production for the year was as follows:—

Southern Board ..	47,018,725 square feet, the value being	£432,168
Northern Board ..	26,483,453 square feet, the value being	£238,350
Totals	74,502,178	£670,518

This total exceeds the average of the preceding five years by 7,500,000 square feet.

The distribution was as follows:—

	Southern Board.	Northern Board.	Total.
Queensland	21,906,272	8,199,373	30,105,645
Interstate	26,112,453	18,284,080	44,396,533
	48,018,725	26,483,453	74,502,178

In preparation of figures, all calculations are based on the equivalent of 3/16th inch thickness.

Effect of Award Increases on Hewn Timber Prices.—During the year increases in the basic wage have been reflected in increased prices for hewn timbers.

There were four increases—viz., 1s. as from 1st August, 1946, 7s. as from 1st January, 1947, 2s. as from 10th February, 1947, and 1s. as from 28th April, 1947.

In the case of the increase of 7s., a general revision of hewn prices was in progress at the time, and such revision was extended to include this increase.

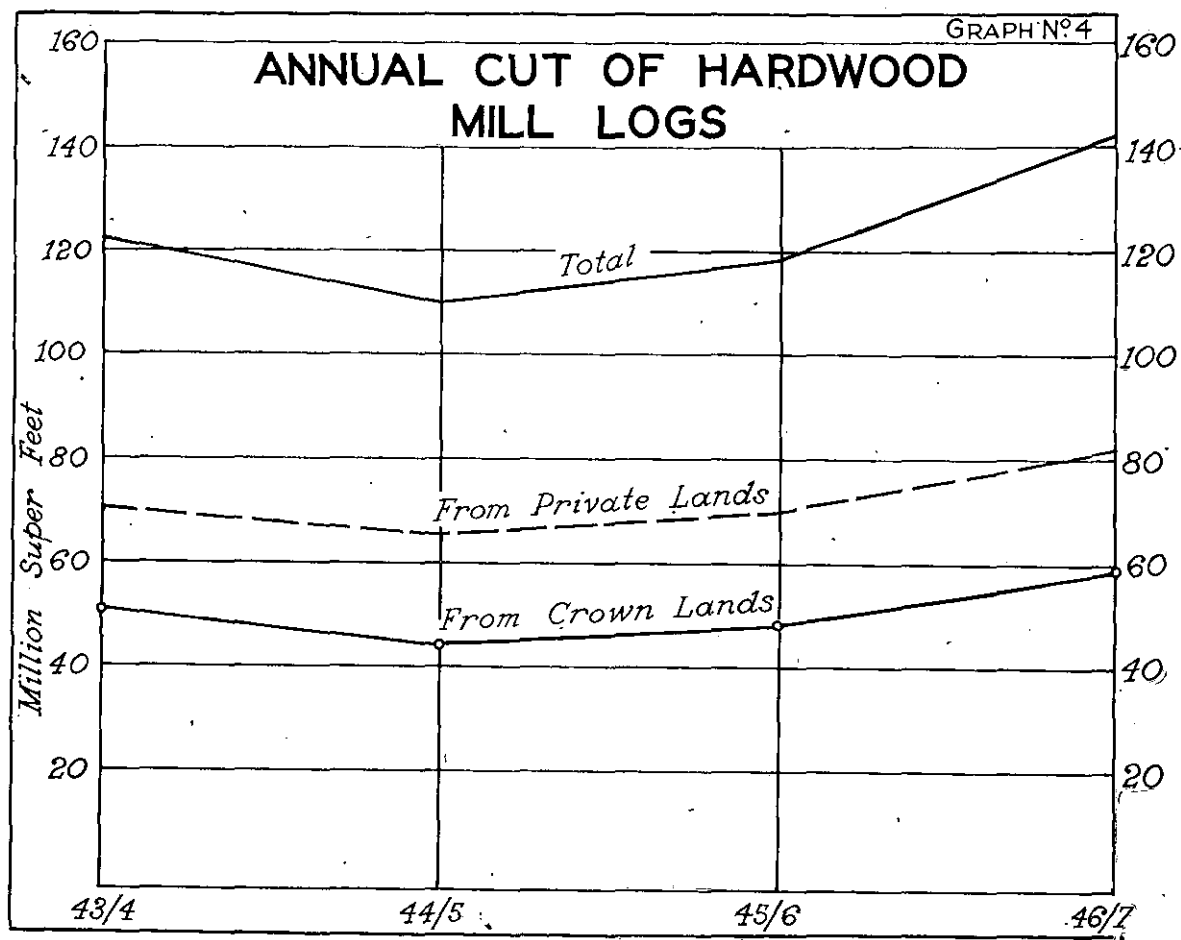
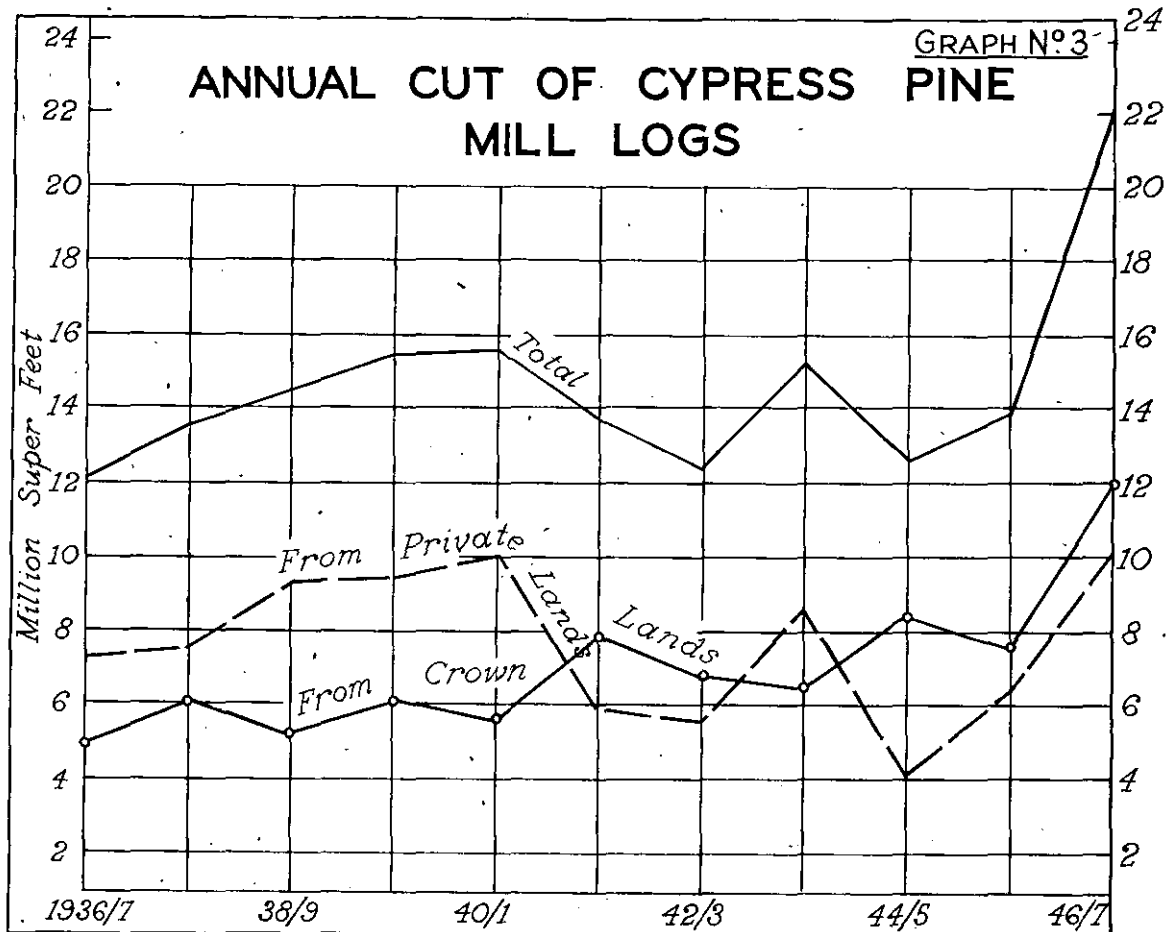
The effect of the increases mentioned above can be seen from the table hereunder.

Class of Timber.	Prices as at—				
	1-7-46.	1-8-46.	1-1-47.	10-2-47.	28-4-47.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Sleepers—squared 7 feet	23 2 3	23 4 3	29 11 7	29 18 4	30 1 9
Sleepers—hogback 7 feet	21 2 3	21 4 3	24 4 11	24 10 2	24 12 10
Crossing timbers	1 10 6	1 10 8	1 10 8	1 10 8	1 10 8
Transoms	1 13 6	1 13 8	1 15 8	1 15 8	1 15 8
Headstocks	1 15 6	1 15 8	1 15 8	1 15 8	1 15 8

Logging Roads.—Expenditure on logging roads, comprising new construction to private access to additional areas and maintenance of existing roads, amounted to £37,911 17s. 2d., made up as follows:—

	£	s.	d.
Revenue	10,768	15	0
Loan	27,143	2	2
	£37,911	17	2

In addition to the above, subsidies to the amount of £4,113 17s. were expended on shire roads.



Total expenditure amounted to £42,025 14s. 2d.

The Main Roads Commission expended from the funds of that Department an amount of £98,341 10s. 10d. on construction and £12,853 16s. 11d. on the maintenance of logging roads. This work was carried out principally in North Queensland.

Constructional Timbers—Departmental Contracts.—The supply of constructional timbers to the Railway Department, Main Roads Commission, and other public and private bodies shows generally an improvement on last year's figures, but supply is still below demand. It is proving extremely difficult to secure sufficient skilled experienced men to permit increase in supplies.

A comparison with the two previous years is as follows:—

	1944-45.	1945-46.	1946-47.
Sleepers	239,977 pieces	270,802 pieces	215,815 pieces
Crossings	204,325 super. feet	225,561 super. feet	241,942 super. feet
Transoms	295,150 super. feet	253,153 super. feet	350,065 super. feet
Bridge timber (round)	528,733 lineal feet	79,533 lineal feet	81,153 lineal feet
Bridge timber (squared)	153,411 super. feet	95,099 super. feet	229,217 super. feet

The improvement in supplies, though small, is an encouraging sign, but it is proving a difficult job to provide the Railway Department with all of its requirements.

The fact should not be lost sight of that railway timber work is, to some extent, becoming a seasonal industry, employing sugar workers in the off sugar season. This may account for the lack of really first class broad-axemen and a consequent disinclination to take on the hewing of better class timber such as girders, the supply of which is limited to a few cutters. The Department is seeking some method whereby skilled girder cutters shall be concentrated on this class of work and endeavour is now being made whereby logs suitable for girders shall be cut in the forest and delivered to the nearest railhead where dressing can be carried out by men skilled in dressing girders.

Until such time as labour shortages are overcome, the outlook for hewn timber supplies reaching a level consistent with current maintenance requirements is not bright.

Plantation Timbers.—The quantities of plantation timbers cut during the past six years are as follows:—

	Super. feet.
1941-42	187,380
1942-43	1,250,000
1943-44	1,260,000
1944-45	955,000
1945-46	907,000
1946-47	2,005,385

Sandalwood.—The Sandalwood trade with China showed some prospects of revival during the year and the marketing agreement with the Australian Sandalwood Co. Ltd. was renewed for a further period to 31st October, 1949. Difficulty has been experienced in inducing cutters to undertake the getting of Sandalwood.

New Regulations.—In May, 1947, regulations were gazetted under the State Forests and National Parks Acts and the Land Acts authorising sales of round, split, or hewn timber as required for construction works or fuel for industrial purposes without submitting same to auction or tender.

Leaves for Oil Distillation.—There were several enquiries to purchase leaves for the distillation of oil, but to date no sales have been effected.

SAWMILL LICENSES.

The policy of granting sawmill licenses to those applicants who have secured supplies of log timber was continued during the year.

Licenses issued because of ownership of private timber have been restricted to the sawing of private timber only; and also to the particular site applied for.

Where Crown timber supplies are available, these are offered at auction with the right to the purchaser to establish a sawmill for their operation; 14 such sales were made during the year.

The change in the sawmill licensing position during the twelve months ending 30th June, 1947, is shown in the table below.

Number of Licenses as at 30-6-46.	Sawmill Classification.	Changes During 1946-47.					As at 30-6-47.
		Number Ceasing to Operate.	Idle Mills Re-licensed.	Restrictions Withdrawn.	Formerly Restricted now Unrestricted.	New Licenses Granted.	
403	General mills	3	4	..	6	88	498
48	Case sawmills	4	1	1	..	15	59
26	Sleeper mills	3	1	2	..	22	44
23	Other restricted	1	..	3	..	7	26
49	Resaw and processing	5	1	..	..	2	47
549		16	7	..	..	134	674

There were 161 exemptions in force as at 30th June, 1947, this representing an increase of 33 over the number at the beginning of the year.

Transfer of site was approved in respect of 27 applications, and 39 sawmills also secured approval to increase their licensed capacity.

The sawmills ceasing to operate were practically all recently granted licenses.

Complaints are becoming rather frequent concerning the granting of licenses for the operation of private timber stands upon which already licensed sawmills are depending for their supplies of logs, and it would appear that the life of many newly licensed mills will be very limited. There is a definite tendency for applicants to be over-optimistic concerning log supplies available.

OFFENCES.

During the year 1946-47, 133 cases of offences against Acts and Regulations administered by the Department were reported.

These were dealt with as follows:—

Twenty-four prosecutions with fines totalling £144 6s. and proceeds from the sale of timber involved amounted to £30 17s. 3d.

In 81 cases warnings were issued and royalty collected.

In 6 cases there was not sufficient evidence for further action.

In 3 cases of minor offences no action was taken and 3 cases were referred to the Main Roads Commission for action.

Sixteen cases are still being investigated.

As a result of action taken in all cases a total of £574 8s. 5d. was collected in addition to fines.

FOREST PRODUCTS RESEARCH AND FANCYWOODS.

Fancywoods.

During the last four years of war, the activities of the Fancywoods Yard were limited to disposal of existing stocks. In the year under review, it was decided to secure fresh stocks of timbers, such being confined to special-use species not usually handled by the trade.

Approximately 12,000 superficial feet of miscellaneous timber was received during the year. The species handled were Yellow Boxwood, Ivorywood, Brown Tulip Oak, Tulip Satinwood, Pink Poplar, Yellow Hollywood, Burdekin Plum, Leopard Ash, Black Myrtle, Grey Boxwood, Silver Bulletwood, White Basswood, Grey Persimmon. Efforts have been made to secure stocks of timber for fishing rods, but so far without success.

The total value of sales from Fancywoods during the year was £625 11s. 1d., representing a total of 22,000 superficial feet of timber.

Wood Structure and Utilisation.

In the field of wood structure, work has consisted mainly of the identification of the many wood specimens submitted and the supply of authentic samples to the Division of Forest Products, Council for Scientific and Industrial Research, for microscopic study. Some 180 samples were forwarded to the Division for special growth studies.

In addition to many unrecorded spot identifications, over 160 official identifications were made, representing 120 different species from Cooktown to Coolangatta, together with recommendations concerning the optimum use of each species concerned.

Special studies have been made or are in progress on the miscellaneous timbers of the Brisbane and Mary Valleys and the North Coast areas, particular attention being given to Brush Box, which is now listed as a "compulsory" species as far as sales to mills from Crown areas are concerned. This timber is now in general demand for building purposes, while it is being sought for as a speciality timber for staves, mallets, and bobbins.

Standards of Quality.—The published list of Standard Common Names of Timbers is being revised and enlarged as regards Queensland, in co-operation with the Standards Association of Australia. The importance of this work in promoting the use of the lesser-known timbers is reflected in the considerable trade demand for the printed lists.

With the co-operation and support of the Department, an important step was taken by the trade in the adoption of Australian Standard Grading Rules for flooring grades, and further consideration by the timber trade of Standards Scantling Grades is awaiting the results from a number of grading studies carried out by the Department at different mills. The Department urges architects to specify Standards Grades for quality of timber for use in buildings. In this way all concerned are aware of the quality of the timber to be used and the most effective utilisation can be made of timber supplies available.

A pamphlet "South Queensland Building Timbers and Specifications for their Use" was issued, and the pamphlet "North Queensland Building Timbers and Specifications for their Use" is being revised to include additional information collected.

Special consideration has been given to timbers suitable for high-voltage equipment and in drawing up suitable specifications in collaboration with the Postmaster-General's Department and with the Division of Forest Products, Council for Scientific and Industrial Research.

New Uses.—Other timber for which new uses are recommended are Brown Lancewood (Scrub Tee-tree) (*Albizia thozetiana*), Ironwood Box (*Syncarpia subargentea*), Red Heart (*Dissiliaria Bologhoides*), Rose Almond (Rose Apple) (*Owenia venosa*), Leopard Ash (*Flindersia collina*), Mararie (*Geissois lachnocarpa*), Green Satinheart (*Geijera salicifolia*) and Bennett's Ash (*Flindersia bennettiana*) for flooring; Marblewood (*Acacia bakeri*), ex Maryborough District, for flooring, cases and rotary peeling; Rose Kamala (*Amoora nitidula*) for cases; Ivorywood (*Siphonodon australe*) for boxwood use and flooring; Blush Walnut or Hard Bolly Gum (*Beilschmiedia obtusifolia*)—too abrasive for sawing—for peeling; Wallum Banksia (*Banksia aemula*) for joinery; Brush Box (*Tristania conferta*) for farmers' vats; and White Eungella Gum (*Eugenia* spp.) and Brown Tulip Oak (*Tarrietia argyrodendron*) for beer-cask staves; Satinay (*Syncarpia Hillii*) for slicing. Several species of Satinash (*Eugenia* spp.) have proved excellent for flooring and mouldings.

Trials of plantation logs of *Pinus taeda* and *Pinus caribaea* showed that good standard quality rotary plywood could be obtained from these timbers. Gluing was a little more difficult than with Hoop Pine.

Satinash (*Eugenia gustaviodes* and *Eugenia* spp.) for Plywood is now established in both North Queensland and Brisbane, but some difficulty is experienced in drying the very curly grained veneers, which are suitable for only case grade plywood. It is probable that very curly logs are best sawn for building scantlings and flooring.

Other uses for which special timbers have been, or are, under test are:—Boxwood substitutes, brush stock, battery separators, tobacco pipes, saddletrees, piano parts, fishing rods and reels, and wickerwork.

Handles.—Service tests on axe handles made from Ironwood (*Backhousia myrtifolia*) from the Gympie district gave good results, proving this species to be equal to if not better than Spotted Gum for heavy work. The high cost of manufacture, however, due to excessive hardness and low yield of handle quality timber from typical logs prevents production at present prices.

Excellent service results were secured with laminated "Densewood" axe handles.

Tests on Rose Almond (*Alphitonia excelsa*) are in progress.

Tests by Walkers Ltd. of Maryborough, who were experiencing heavy breakages in Spotted Gum handles for 14 lb. striking hammers, revealed that service life is greatly increased by use of fabric or rubber sleeves in the hammer head. This proves that the Spotted Gum handles fail by shattering through lack of ability to damp out the vibrations due to the heavy blows. Several broken handles examined were also badly selected for grain by the manufacturers and in some were badly fitted by workmen.

Essential Oils.—A survey of all licensed producers of essential oils, and species handled, was made during the year. Personal visits were made to a number of plants, where local problems were fully discussed and recommendations submitted for the development of the industry.

Miscellaneous studies have included Lawyer Vine supplies, leaves and bark of chemical and pharmaceutical interest, tanbarks of mangroves, Kauri and grass tree gums.

Preservation.

Marine Borer Investigations.—Assistance has been given throughout the year to the Division of Forest Products, Council for Scientific and Industrial Research, in providing data on timber destruction by marine borers in Queensland waters and in completing a survey of conditions in Queensland ports through the Department of Harbours and Marine. This is part of an all-Australian survey being conducted by the Division. Some very useful service records were received from the Harbour Boards at Rockhampton and Cairns.

Following information supplied to the City Engineer on marine borers attacking Turpentine piles supporting the net of the Sandgate swimming pool, the Brisbane City Council authorised the provision of concrete pile armour to prevent the loss of these piles.

Continuous co-operation has been maintained with a Brisbane wharf owner in observing Turpentine piling and recommending effective protection against marine borers.

Powder Post Borers—General.—The usual service was given of advice to home owners, Government Departments, timber merchants, wood manufacturers, and building authorities troubled with wood borers, and in supplying technical literature and information to firms engaged in combating wood-destroying pests.

An official list of all common Queensland timbers susceptible to *Lyctus* has been published.

Anti-Lyctus Work.—The major portion of this work has been aimed at the extension and improvement of immunisation treatment of sapwood susceptible to *Lyctus*. Immunisation by boric acid has been established on a firm footing in Queensland, and in addition to the plants treating susceptible veneers, two major plants are operating on sawn timber, whilst a third is nearing completion. During the year, approximately 1,000,000 superficial feet of sawn timber has been treated in the two plants under operation.

Existing schedules have been improved to the extent that the solution strengths have in one case been reduced from 4 per cent. to 2 per cent., and the maintenance periods reduced from 8 hours to 2 hours. In the case of one plant, a less expensive steaming schedule was developed for treating soft timbers, such as *Alstonia scholaris*.

Improved schedules have also been developed for seventeen scrubwood species.

Analytical methods have been developed which enable control of the solutions to be carried out readily by the plant operator. Previously, analysis of solutions necessitated laboratory work away from the plant, with a resultant time lag in adjustment of the solutions. Other experiments have been initiated to use the conductivity of the solution to measure the boric acid content.

Laboratory analytical and investigational work have necessitated over 1,500 wood analyses in addition to a large number of solution checks. A service maintained for this purpose has been used by several of the commercial firms engaged in the treatment processes.

Check analyses of treated veneers from one firm indicated that an excessive amount of preservative was being used. The firm was advised, and as a result an appreciable saving in costs of treatment should be effected. Arrangements have been made for regular checks to be made at all plants to see that costs are kept to a satisfactory figure.

In the treatment of sapwood with boric acid there arises an associated problem of fungus growth on the surface of the boards and in the solution. This problem is usually combated by adding a fungicide to the solution, but in this case it has been found that the compounds used are precipitated by the boric acid and extractives from the wood, thus neutralising their fungicidal value. This difficulty is still unsolved, but the problem is being further investigated.

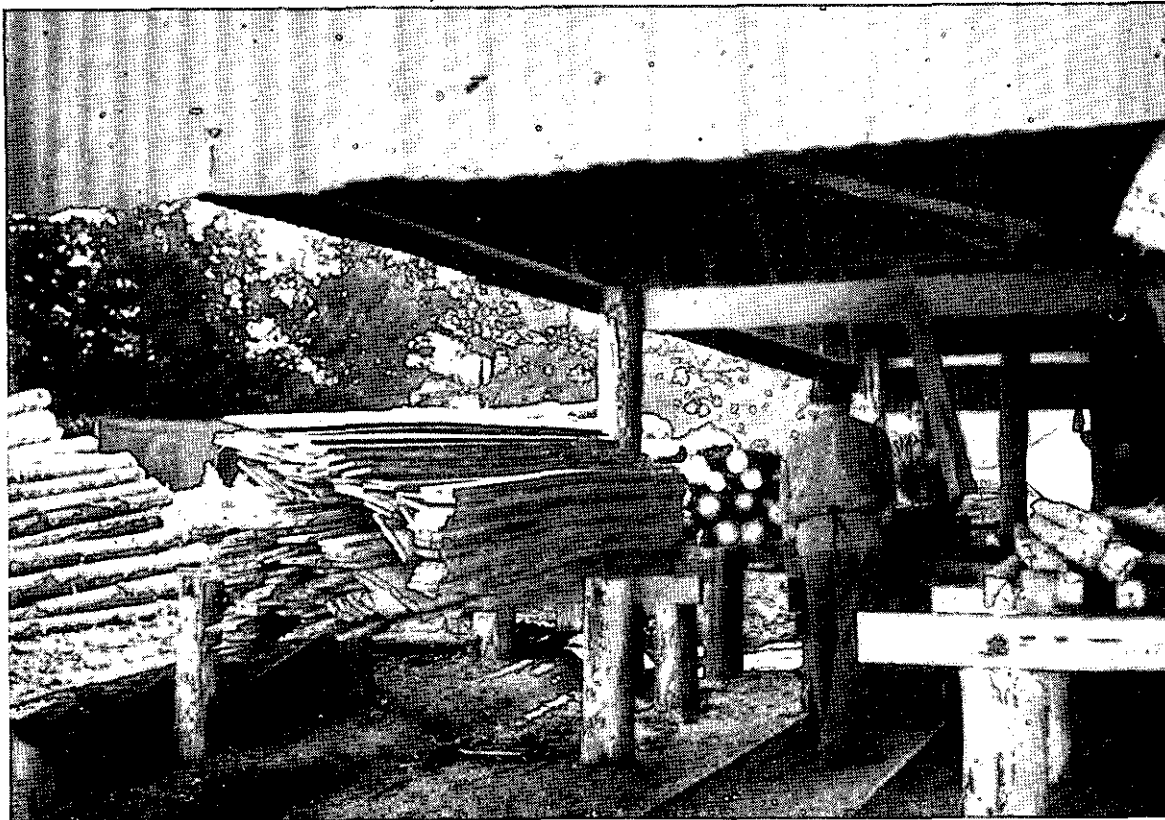
One of the heaviest items of expenditure in the installation of a treatment tank is the cost of copper sheeting. The possibility of the use of concrete vats without copper lining is under examination. Laboratory trials have shown a very small effect only on the concrete of the boric acid content of the solution. Final conclusions cannot be drawn at this stage.

In the past, treatment solutions have been run off as waste after wood extractives had caused the solution to darken to such an extent as to cause staining. Laboratory trials have been carried out to clarify the solutions and thus enable their continued use. This would have two advantages:—

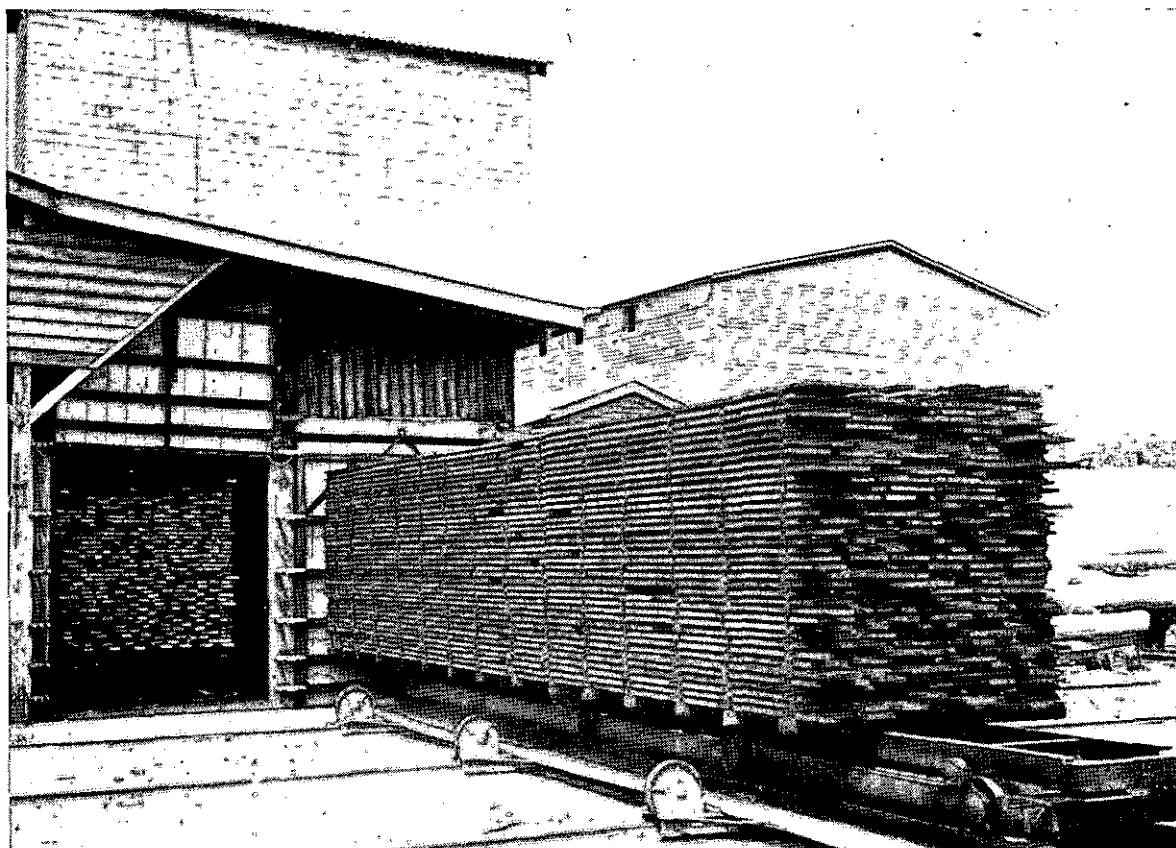
- (1) Economy would be effected in the use of boric acid, which at present costs approximately £50 per ton.
- (2) Control of solution strengths would be made easier.

The results of these trials have been promising and commercial large scale tests, using equipment which can be cheaply constructed at the mill, are in hand.

IMPROVING UTILISATION.



MILL OPERATING FULL TIME ON PLANTATION THINNINGS PRODUCING CASES FOR THE GRANITE BELT.
During the past year over 2,000,000 s. ft. of first thinnings were cut from young plantations. It is expected that thinnings will amount to 10,000,000 s. ft. per annum within a few years.



IMMUNIZATION OF BORER SUSCEPTIBLE TIMBER.

This commercial plant is treating approximately 25,000 s. ft. per week by the boric acid method, thus rendering it immune to Lyctus attack, and suitable for permanent uses.

Difficulties experienced in connection with clinker formed from the burning of boric impregnated sawdust have been overcome by the addition of lime to the sawdust prior to burning.

It is considered worthy of special mention that the operations of Messrs. Brandon and Son have caused world-wide interest, enquiries having been received from Europe, the United States of America, and South America for details of the treatment being carried out and of the technical aspects of the work.

Other Preservative Projects.—Routine inspections have been carried out on fence posts and bridge deckings. A final inspection of the test plot at Gadgarra, North Queensland, has been made and the final report is under compilation. Inspections have been made of treated sleepers laid at Roma Street and a report forwarded to the Council for Scientific and Industrial Research, under whose direction the tests were made.

Termite Control and Decay Prevention.—Collection is proceeding of a large number of authentic specimens of common Queensland structural hardwoods for termite resistance tests by the Division of Economic Entomology, Council for Scientific and Industrial Research, Canberra, and fungal resistance research by the Division of Forest Products, Council for Scientific and Industrial Research, Melbourne.

Chemistry.

Following receipt of a complaint that unsatisfactory veneers were being used in the manufacture of matches, samples were examined to determine the cause of the discolorations on which the complaints were based. It was found that the timber was quite satisfactory, but that the silicate solution used as a fireproofing agent was responsible for the staining.

Investigations were carried out on the use of Brigalow bark as a tanning material. The bark was found unsuitable due to its low tannin content (11 per cent.) and to the fact that it gave a dark tan to the hide. Analyses were made of wattle barks which had been forwarded for examination of tannin content.

The use of Mangrove barks as a tanning material is also under examination. Mangrove occurs in vast quantities in Queensland and other tropical countries, but its use in tanning has been unsuccessful due to its prohibitive red colour and the fact that it renders the leather surface "blotchy" and harsh.

Experiments to overcome this had been carried out in many countries, but with little success. However, as a result of our laboratory tests, it now appears that a satisfactory light coloured extraction is both commercially possible and economic, and further work is in hand to confirm these indications. If they are successful, further tests will be carried out.

In this work grateful acknowledgement is made to the assistance afforded by the Government Analyst and his staff and Messrs. Johnson and Son of Kedron.

Seasoning.

Mainly on account of staff difficulties it has not been possible to resume our previous scale of activities in either the field or in the laboratory.

Due to breakdowns in the boiler the experimental kilns were idle for most of the year and only twelve runs were completed—mostly on timber required urgently by other Governmental Departments.

In addition to this work, approximately 8,000 superficial feet of scrubwood were subjected to experimental air drying, but the observations have not yet been completed.

The report upon the air seasoning of Brush Box project referred to in last year's report has now been issued.

Inspections of a number of air-seasoning yards were carried out during the year and recommendations made for improved practices.

Moisture Equilibrium Survey observations have been continued at the five test stations on the North Coast. This work is nearing completion, and will be finalised in the near future. A summary of the results to date was prepared and published.

There has been an appreciable increase in requests for moisture content determinations from the trade and the public. Most of the samples submitted were from flooring supplied for building.

By close liaison with the Division of Forest Products, Council for Scientific and Industrial Research, we have been able to keep Queensland timber interests advised of the latest developments in air and kiln drying.

Mill Studies.

The studies commenced in 1945-46 in collaboration with the Council for Scientific and Industrial Research and the Timber Stabilisation Board have been continued, studies having been conducted at three hardwood mills (situated in Chinchilla, Wondai, and Brisbane) and two other mills situated in Glasshouse and Imbil. The last two studies were carried out on plantation thinnings, while the lastmentioned included a special study of miscellaneous scrub timbers. Unfortunately, the Council for Scientific and Industrial Research were unable to continue to assist in the field work, but their assistance in the analyses of results and subsequent discussions have been particularly valuable.

Final reports have been issued on the studies carried out on Cypress Pine and interim reports have been compiled on two of the three hardwood mills studied in the year 1945-46. These reports have done much to stimulate a critical review of milling operations by the respective owners and have enabled all concerned to obtain a much better appreciation of the several factors involved in the true cost of milling.

One of the most important developments arising out of the hardwood studies is that relating to the analysis of the true residual stumpage values of compulsory and optional logs. The analyses are not yet complete, but there are indications that the Department's policy regarding optional logs should be reviewed.

Special attention has been given to the work on plantation timber. The results indicate that with some types sawing for production of barkwane material is the most economic procedure.

Technical Education.

Following joint representations of the Department and the Queensland Timber Stabilisation Board, a series of lectures has been instituted during the year at the Central Technical College on Forestry, Sawmilling, and Wood Technology, the lecturers being drawn from the staff of the Branch. Subjects covered in the lectures include—

The Growth and Structure of Wood, Conversion (Sawmilling and Veneering), Seasoning, Mechanical Properties of Wood, Destructive Agencies (Fungus, Rots and Insect Pests of Trees and Timber), Preservation, Plastics, Chemical Utilisation, and Timber Grading.

The enrolment exceeds 80, the pupils being drawn mostly from sawmilling organisations, and attendances have been gratifyingly high.

North Queensland.

As staff becomes available, it is hoped to establish a field station in North Queensland to deal with the problems of that region.

ACKNOWLEDGMENTS.

It is desired to pay grateful acknowledgment to the Government Botanist, the Government Analyst, the Chief, Division of Forest Products, Council for Scientific and Industrial Research, for generous assistance and advices received from them and their officers during the year. Without such assistance our work would be greatly reduced in volume and quality.

To the many timber firms and organisations which have been collaborating during the year, it is also desired to express our gratitude, and while each and every one of them has shown a keen desire to assist whenever approached, it is felt that a special tribute is due to Messrs. Brandon and Son and to Messrs. Hancock & Gore, on whose services and generousities we have made more than average demands.

GENERAL.

During the year, a reorganisation of the Forestry Sub-Department was approved. That part of the State, which is under direct supervision by Forest Officers, has been divided into eight Districts, under control of District Foresters. Six of these—viz., Brisbane, Gympie, Maryborough, Yarraman, Dalby and Atherton—are Grade I. Districts and two—Warwick and Kalpowar—Grade II. The central administration has been divided into the following branches:—Administration, Drafting, Harvesting and Marketing, Working Plans, Silviculture, Forest Research and Forest Products Research.

The post of Deputy Director of Forests was created; other classifications were improved, and a number of new classified positions provided. At 30th June, 1947, there were 35 classified posts in Head Office, as against 28 at 1st July, 1946, while classified clerical posts in country offices numbered 14 as against 5.

The position regarding field staff altered as follows:—

	Number at—	
	1-7-1946.	30-6-1947.
District foresters	3	8
Foresters, Division I	10	4
Foresters, Division II	4	8
Foresters, Division III	10	16
Forest rangers	34	35
Total	61	71

I regret to record the retirement during the year of F. D. Chippindall, Forester, Maryborough, who had a long and meritorious service with the Department.

That the staff put forward extra effort during the year is indicated by the results, accomplished often under difficulties, and I take this opportunity of expressing my thanks.

V. GRENNING,

Director of Forests.

29th September, 1947.

Appendices.

APPENDIX A.

Return of Timber, &c., removed from Crown Lands during Year ended 30th June, 1947.

Species.	Quantity.	
	Super ft.	Super ft.
Milling Timber—		
Hoop and Bunya Pine—		
Ply	8,223,918	
Logs	44,692,622	
Tops	41,202,453	
		94,118,993
Kauri Pine	8,956,845	
Cypress Pine	12,374,682	
Forest Hardwoods	51,028,915	
Scrub Hardwoods	8,227,739	
Cabinet Woods	22,926,885	
Miscellaneous Species	20,618,005	
		124,133,071
Pinus taeda	686,450	
Pinus radiata	362,135	
Pinus caribaea	243,291	
Pinus patula	6,795	
Cedrela mexicana	53,831	
Cupressus benthami	5,356	
Hoop Pine Thinnings	642,752	
Silky Oak Thinnings	4,775	
		2,005,385
Total		220,257,449
Other Classes—		
Sleepers	215,380 pieces	
Sleeper Blocks	183,057 pieces	
Headstocks, Transoms, and Crossings	813,658 superficial feet	
Girders, Gorbels, Piles, and Sills	119,817 lineal feet	
Poles	404,927 lineal feet	
House Blocks	339,590 lineal feet	
Round Timbers	119,232 lineal feet	
Fencing Materials	370,309 pieces	
Fencing Materials	140,851 lineal feet	
Fencing Materials—Sawn	135,510 superficial feet	
Hewn and Bridge Timbers	205,014 superficial feet	
Mining Timbers	153,393 pieces	
Mining Timbers	523,035 lineal feet	
Stakes	17,168 pieces	
Miscellaneous Timbers	2,878 pieces	
Miscellaneous	2,763 lineal feet	
Miscellaneous	11,223 superficial feet	
Fuel	125,537 tons	
Charcoal	85,816 bags	
Mulga	96 tons 17 cwt.	
Rosewood	220 tons 5 cwt.	
Kauri Gum	123 tons 10 cwt.	
Lawyer Cane	547 tons	
Honey	1,280 tons	
Sand, Gravel, Soil, &c.	20,929 cubic yards	
Gravel	10,236 tons	
Shell Grit	641 tons	
Sleeper Chips	2 loads	

APPENDIX B.

Annual Cut—Pine—Financial Year ended 30th June, 1947.

Working Plan Area.	Ply.	Logs.	Tops.	Total.
	Super ft.	Super ft.	Super ft.	Super ft.
Bowen	Nil	251,748	157,367	409,115
Brisbane	1,279,942	9,377,269	7,804,541	18,461,752
Brisbane Valley	1,979,306	15,413,267	15,311,018	32,703,591
Bundaberg	48,582	417,080	364,518	830,180
Gympie	14,326	492,233	437,338	943,897
Kilkivan	2,708,969	7,723,463	7,451,485	17,883,917
Mackay	Nil	30,928	19,649	50,577
Many Peaks	1,552,304	4,585,341	4,599,754	10,737,399
Maryborough	399,496	3,317,527	3,238,805	6,955,828
Mary Valley	240,993	2,010,291	1,102,135	3,353,419
North Coast	Nil	44,525	19,981	64,506
Rockhampton	Nil	86,947	61,671	148,618
Warwick	Nil	942,003	634,191	1,576,194
Totals	8,223,918	44,692,622	41,202,453	94,118,993

APPENDIX C.

Receipts under the State Forests and Timber and Quarry Regulations for the Year ended 30th June, 1947.

Districts.	Totals.	
	£	s. d.
Group 1—South Queensland (Brisbane, Bundaberg, Gympie, Maryborough, Toowoomba, Warwick)	547,344	16 7
Group 2—Goondiwindi, Inglewood, St. George, Stanthorpe	3,981	9 5
Group 3—Dalby	10,373	18 0
Group 4—Charleville, Cunnamulla, Roma	485	5 6
Group 5—Barcaldine, Blackall, Jundah, Longreach, Muttaborra, Stonehenge, Winton, Aramac	784	14 3
Group 6—Clermont, Emerald, Springsure	1,073	13 6
Group 7—Gayndah, Gladstone, Monto, Taroom, Theodore	250	3 0
Group 8—Rockhampton	1,269	5 9
Group 9—Mackay	2,345	13 1
Group 10—Bowen	1,885	11 5
Group 11—Townsville	1,768	9 2
Group 12—Charters Towers, Ravenswood	854	17 6
Group 13—Hughenden	385	3 9
Group 14—Cloncurry, Boulia, Kynuna, Mackinlay	233	9 7
Group 15—North Queensland (Atherton, Herberton, Cooktown, Port Douglas, Cairns, Innisfail, Ingham)	333,244	19 9
Group 16—Burketown, Coen, Croydon, Georgetown, Normanton, Thursday Island	4	15 4
	906,286	5 7
Receipts—Forestry and Lumbering	74,673	12 4
Sale of Plants, Materials, &c.	4,035	15 7
Rents and Grazing Dues	4,678	19 4
	989,674	12 10
Less Treasury Refunds	764	15 0
	£988,909	17 10

COMPARISON WITH TOTALS OF PREVIOUS YEARS.

1942-43.	1943-44.	1944-45.	1945-46.
£937,725	£1,123,921	£1,555,425	£914,824

APPENDIX D.

Proceeds of Sales of Timber, &c., for the Period from 1st July, 1943, to 30th June, 1947.

Districts.	1943-44.		1944-45.		1945-46.		1946-47.	
	£	s. d.	£	s. d.	£	s. d.	£	s. d.
Group 1	607,462	1 6	636,793	9 11	545,488	4 2	547,344	16 7
Group 2	1,887	2 11	3,852	1 10	3,482	9 9	3,981	9 5
Group 3	8,438	18 4	4,484	8 1	5,209	6 0	10,373	18 0
Group 4	396	2 8	384	5 9	433	9 4	485	5 6
Group 5	564	10 5	656	2 0	584	11 0	784	14 3
Group 6	279	3 0	520	3 2	510	2 2	1,073	13 6
Group 7	333	11 5	222	11 3	166	0 2	250	3 0
Group 8	669	7 2	597	16 11	919	11 6	1,269	5 9
Group 9	1,703	18 2	1,116	7 5	1,712	12 1	2,345	13 1
Group 10	803	11 1	875	18 0	1,946	10 5	1,885	11 5
Group 11	4,448	11 3	2,477	9 1	1,481	2 11	1,768	9 2
Group 12	350	19 2	864	4 1	997	15 9	854	17 6
Group 13	135	9 2	257	2 3	226	4 7	385	3 9
Group 14	212	18 3	256	1 3	169	13 4	233	9 7
Group 15	238,868	8 10	223,789	2 10	225,643	2 7	333,244	19 9
Group 16	5	17 1	2	10 6	2	5 3	4	15 4
	866,500	10 5	877,149	14 4	788,973	1 0	906,286	5 7
Receipts — Forestry and Lumbering	217,387	17 4	208,453	16 2	82,933	4 6	74,673	12 4
Sale of Plants, Materials, &c.	7,061	7 3	7,146	7 3	4,979	14 11	4,035	15 7
Rents and Grazing Dues	4,549	8 1	4,323	4 6	4,627	15 6	4,678	19 4
State Sawmills	21	0 0	..	..	..	..	..	..
Miscellaneous Receipts and Adjustments .. .. .	..	..	..	..	8	0 0	..	..
Surplus from Previous Year—Forestry and Lumbering Operations	29,595	10 6	59,644	13 11	34,864	4 6	..	..
	1,125,115	13 7	1,156,717	16 2	916,386	0 5	989,674	12 10
Less Treasury Refunds	1,194	14 1	1,292	10 0	1,562	5 11	764	15 0
	1,123,920	19 6	1,155,425	6 2	914,823	14 6	988,909	17 10

APPENDIX E.

The following Schedule illustrates the market price of logs during the Year 1st July, 1946, to 30th June, 1947.

Species.	Log Class.	Delivery.	Prices.
Red Tulip Oak	7 ft. plus	F.o.r. Cairns	s. d. 16 6
Red Cedar	8 ft. plus	F.o.r. Townsville	17 6
		F.o.r. Cairns	41 5
		F.o.r. Townsville	42 5
		F.o.r. Netherdale	33 3
		F.o.r. Brisbane	41 6
Kauri Pine	8 ft. plus	F.o.r. Cairns	19 10
Walnut	8 ft. to 8 ft. 11 in.	F.o.r. Townsville	20 10
		F.o.r. Cairns	23 7
		F.o.r. Townsville	24 7
Silky Oak	8 ft. plus	F.o.r. Cairns	20 1
		F.o.r. Townsville	21 1
Maple	8 ft. to 8 ft. 11 in.	F.o.r. Cairns	28 11
		F.o.r. Townsville	29 11
Black Pine	8 ft. plus	F.o.r. Cairns	17 10
		F.o.r. Townsville	18 10
Putt's Pine	8 ft. plus	F.o.r. Cairns	21 8
		F.o.r. Townsville	22 8
White Beech	8 ft. plus	F.o.r. Cairns	22 1
		F.o.r. Townsville	23 1
		F.o.r. Brisbane	29 0
Hickory	8 ft. plus	F.o.r. Cairns	18 6
White Ash	7 ft. plus	F.o.r. Cairns	17 3
		F.o.r. Townsville	18 3
Tarzali Silkwood	7 ft. plus	F.o.r. Cairns	16 6
		F.o.r. Townsville	17 6
Satin Sycamore	7 ft. plus	F.o.r. Cairns	15 3
		F.o.r. Townsville	16 3
Yellow Walnut	7 ft. plus	F.o.r. Cairns	14 5
		F.o.r. Townsville	15 5
Brown Pine (She Pine)	7 ft. plus	F.o.r. Brisbane	18 6
White Cedar	7 ft. plus	F.o.r. Brisbane	20 6
Yellowwood	6 ft. plus	F.o.r. Brisbane	20 0
Crow's Ash	6 ft. plus	F.o.r. Brisbane	20 0
Southern Silver Ash (Bumpy Ash)	6 ft. plus	F.o.r. Brisbane	19 6
Bennett's Ash	6 ft. plus	F.o.r. Brisbane	19 6
Leopard Ash (Leopard Wood)	6 ft. plus	F.o.r. Brisbane	19 6
Bonewood	6 ft. plus	F.o.r. Brisbane	17 3
Bollywood (Brown Bollywood) (Bollygum)	6 ft. plus	F.o.r. Brisbane	16 9
Brown Tulip Oak (Crow's Foot Elm)	6 ft. plus	F.o.r. Brisbane	14 3
Carrobean	6 ft. plus	F.o.r. Brisbane	16 9
Kurrajong (Flame Tree)	6 ft. plus	F.o.r. Brisbane	15 3
Pink Poplar (Blush Cudgerie) (Maiden's Blush)	6 ft. plus	F.o.r. Brisbane	11 9
Red Silky Oak (Beefwood)	6 ft. plus	F.o.r. Brisbane	17 3
Rose Mahogany	6 ft. plus	F.o.r. Brisbane	18 3
Rose Maple (Rose Walnut) (Pigeonberry Ash)	6 ft. plus	F.o.r. Brisbane	17 9
Sassafras	6 ft. plus	F.o.r. Brisbane	16 9
Silver Quandong	6 ft. plus	F.o.r. Brisbane	18 9
Southern Silky Oak	6 ft. plus	F.o.r. Brisbane	21 9
Tulip Plum (Burdekin Plum)	6 ft. plus	F.o.r. Brisbane	19 3
White Walnut (Pepperberry)	6 ft. plus	F.o.r. Brisbane	17 7
Scrubwood Species not elsewhere included in Forestry Sub-Department Log Price Lists—			
Light Scrubwoods	6 ft. plus	F.o.r. Brisbane	11 9
Heavy Scrubwoods	6 ft. plus	F.o.r. Brisbane	14 3
Scrubwoods and Hardwoods	7 ft. plus	F.o.r. Cairns	16 6
		F.o.r. Townsville	17 6
Hardwoods	6 ft. plus	F.o.r. Brisbane, Warwick, and Gladstone	13 6
Hardwoods	6 ft. plus	F.o.r. Maryborough, Bundaberg, and Too- woomba	13 0
Hardwoods	6 ft. plus	F.o.r. Rockhampton	14 0
Hardwoods	6 ft. plus	F.o.r. Townsville	18 3
Hardwoods	6 ft. plus	F.o.r. Mackay	14 0
Hardwoods	6 ft. plus	F.o.r. Ingham	17 3
Hoop Pine Ply	7 ft. plus	F.o.r. Brisbane	30 0
Hoop Pine "A" Quality Logs	7 ft. plus	F.o.r. Brisbane	23 0
Bunya Pine Logs	7 ft. plus	F.o.r. Brisbane	20 6
Hoop Pine Tops	7 ft. plus	F.o.r. Brisbane	12 6
Bunya Pine Tops	7 ft. plus	F.o.r. Brisbane	11 0

APPENDIX F.

Railway Timbers supplied during Financial Year 1946-47, under Forestry and Lumbering Operations.

Class of Timber.	Quantity.	Sales Value.		
		£	s.	d.
Decking	168,284 superficial feet	4,219	8	5
Crossings	262,115 superficial feet	4,394	18	7
Headstocks, Longitudinals, Braces, &c.	59,126 superficial feet	1,162	4	8
Transoms	350,065 superficial feet	6,451	12	8
Hewn Hardwood	1,807 superficial feet	48	15	6
	841,397 superficial feet			
Girders and Corbels	25,226 lineal feet	5,153	1	5
Piles	43,951 lineal feet	5,397	2	2
Poles	36,958 lineal feet	2,080	16	11
Round and End Posts	15,076 lineal feet	1,235	11	3
Sills	11,976 lineal feet	468	5	4
Struts	1,311 lineal feet	193	1	0
	134,498 lineal feet			
Split Rails	58,118 pieces	4,099	17	10
Sleepers	89,926 pieces	21,938	15	6
Sleeper Blocks (as Sleepers)	125,969 pieces	22,045	2	4
Miscellaneous Timbers	826 pieces	125	7	7
	274,839 pieces			
Total		£79,014	1	2

APPENDIX G.

Comparative Statement of Expenditure for Years 1945-46 and 1946-47.

	1945-46.	1946-47.
	£	£
Revenue—		
Salaries	61,145	77,601
Travelling and Incidentals	8,399	10,226
Extra Living Allowances	824	981
National Parks Supervision	372	371
Cash Equivalent Extended Leave (F. D. Chippendall) .. .. .	..	248
Treasury—Developmental Works, &c.—		
Reforestation	169,950	..
National Parks	7,066	..
Access Roads	11,548	..
Charcoal Production	544	..
Loan—		
Reforestation—		*428,322
Plantations	24,762	..
Access Roads	9,138	27,750
Acquisitions of Land for Forestry Purposes	18,969	18,157
Trust—		
Hardwood Supplies to Railway Department and Others	109,842	68,866
Harvesting and Marketing Timber	482,501	516,785
Treasury—		
Post War Reconstruction and Development Fund—		
Reforestation .. .. .	..	Cr. 25,571*
National Parks .. .. .	..	22,864
Access Roads .. .. .	..	14,282
	£904,860	£1,160,882

* Actual Expenditure on Reforestation for the year amounted to £402,751.

APPENDIX H.
Summary of Loan Reforestation Expenditure, Year ended 30th June, 1947.

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.	£ s. d.
	212 2 3	86 4 5	283 18 7	195 0 7	0 7 2	1,660 2 11	225 10 4	485 15 10	443 2 3	44 10 4	121 6 4	..	165 16 8	608 18 11
R. 215	..	..	..	..	..	1,660 2 11	485 15 10	485 15 10	485 15 10	80 6 10	71 7 11	..	151 14 9	437 10 7
R. 369 and R. 1365	..	..	..	..	..	298 17 3	..	1,746 7 4	1,746 7 4	142 18 2	483 13 1	..	948 10 3	2,692 17 7
R. 446	..	..	..	..	..	748 19 0	..	541 0 0	541 0 0	329 4 7	168 14 0	..	811 12 11	1,852 12 11
R. 494	..	..	..	..	..	147 19 9	..	951 17 11	951 17 11	16 1 0	214 18 11	..	544 3 6	1,496 1 5
R. 667	..	..	..	..	..	1,017 6 10	..	1,089 1 4	1,089 1 4	258 0 5	11 1 4	..	27 2 4	229 16 11
R. 702	..	..	..	..	..	470 19 11	..	678 14 4	678 14 4	28 2 8	358 3 2	..	168 4 10	1,703 9 11
R. 1376	..	..	..	..	..	722 14 2	..	722 14 2	722 14 2	118 17 1	140 2 2	..	118 17 1	1,846 10 2
Administration and Patrol Plantation Experiments	..	..	..	..	..	..	..	..	..	..	..	..	..	722 14 2
Depot Stock Account and Drum Account	..	..	..	..	..	..	..	..	..	285 8 7	..	..	285 8 7	285 8 7
	1,047 9 9	..	..	0 19 1	0 7 2	5,787 6 0	5 9 8	20 14 2	6,862 5 10	1,759 6 10	1,569 7 8	..	3,328 14 6	10,191 0 4

BRISBANE WORKING PLAN AREA.

BRISBANE VALLEY WORKING PLAN AREA.

BUNDABERG WORKING PLAN AREA.

R. 190	118 0 3	..	..	..	64 17 2	462 16 11	368 9 9	588 12 2	1,597 16 3	594 19 9	318 11 8	..	913 11 5	2,511 7 8
R. 217	54 11 2	..	..	..	18 5 9	209 5 10	31 17 8	146 8 11	828 3 0	366 12 9	769 5 8	..	525 18 5	1,354 1 5
R. 286	503 5 3	..	..	..	10 12 3	354 1 5	99 3 8	356 10 5	1,676 17 9	311 0 10	427 3 10	..	788 4 8	2,415 2 4
R. 288 and R. 480	4,598 7 11	..	..	..	18 4 8	4 5 2	35 16 4	218 18 5	11,704 15 4	320 11 8	114 3 9	..	434 15 5	1,944 13 2
R. 289	4,880 15 10	..	..	..	300 5 8	8,595 2 0	596 11 7	1,420 1 7	11,704 15 4	3,750 8 8	2,330 8 1	..	6,110 11 9	17,315 7 1
R. 299	1,027 11 1	..	..	..	258 8 7	1,416 12 3	851 4 7	1,308 10 1	10,095 0 6	3,236 14 8	2,078 4 7	..	5,364 19 3	15,459 19 9
R. 328/9 and R. 474	..	..	..	..	0 16 7	28 5 6	234 19 0	193 10 6	1,893 0 2	965 7 4	369 19 0	..	1,335 6 4	3,228 6 9
R. 379	..	..	..	..	6 8 3	44 17 10	94 8 10	297 0 6	1,089 17 10	0 12 10	150 5 11	..	589 16 2	1,979 14 0
R. 509	592 4 5	115 7 5	296 14 9	..	5 1 0	14 17 5	2 1 8	184 4 3	2,913 19 5	50 0 4	636 1 9	..	60 0 4	72 0 5
R. 527/9	..	..	..	..	20 11 3	518 3 1	99 12 6	99 12 6	647 14 6	203 6 2	163 1 10	..	356 8 0	3,042 13 4
Construction Drafting Room—Yarraman Office	..	..	..	..	..	..	..	0 3 6	0 3 6	..	..	..	..	1,004 2 6
Maintenance Office	..	..	..	..	..	..	..	18 18 3	18 18 3	..	..	..	..	0 3 6
Administration	..	..	..	..	..	..	..	..	..	212 3 7	..	..	212 3 7	18 18 3
Fire-fighting and Patrol Experiments	..	..	..	..	..	..	..	..	1,068 19 5	..	..	..	..	212 3 7
Depot Stock Account and Drum Account	..	..	..	..	..	..	..	..	658 13 10	..	..	..	..	1,068 19 5
Contribution towards Cost of Pumping Water-Town Bore	..	..	..	..	..	..	..	..	..	387 7 7	..	..	387 7 7	658 13 10
	11,769 15 11	115 7 5	5,832 1 11	658 13 10	703 11 2	8,301 12 0	2,498 11 6	4,853 12 10	34,738 6 7	11,412 13 4	6,787 6 1	..	18,149 19 5	52,883 6 0

R. 49 and R. 80	1,297 5 9	..	..	..	..	869 2 6	20 18 2	0 16 7	2,187 8 0	774 19 6	524 19 1	..	1,299 18 7	3,487 1 7
R. 169	76 14 6	..	..	..	..	1,512 11 1	10 15 4	18 3 6	1,565 13 11	467 0 6	251 15 1	..	1,718 15 10	2,774 0 9
R. 191	943 13 5	..	..	..	..	1,978 18 11	40 13 7	18 13 10	1,987 17 11	314 19 10	360 19 0	..	1,173 14 10	3,173 14 7
R. 832	667 0 7	..	..	..	..	862 8 5	17 9 8	23 4 8	1,689 17 11	925 5 3	510 18 0	..	1,487 3 6	3,697 1 4
R. 837	32 17 9	..	..	..	..	160 15 1	..	4 4 2	187 17 0	27 4 2	..	..	27 4 2	215 1 4
Administration	..	..	..	..	..	..	..	..	..	10 12 8	..	..	10 12 8	10 12 8
Fire-fighting and Patrol Experiments	..	..	..	..	..	988 10 11	..	..	988 10 11	..	..	..	..	988 10 11
	2,959 11 6	..	..	..	..	5,442 1 11	116 6 9	59 2 4	8,582 4 8	8,020 18 4	1,643 11 2	..	4,669 9 6	13,251 14 2

APPENDIX H—continued.

Reserve.	Reforestation.				Surveys.	Protection, Fire-fighting, Fear-Clearing, &c.	Maintenance of Capital Improve-ments.	New Con-struction 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.	£			s.	d.	£	s.	d.
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.	£ s. d.						
..	1,008 6 5	1,547 14 6	..	..	..	97 18 6	71 16 4	..	1,106 2 11	431 0 11	172 9 2	..	603 10 1	1,709 18 0			
..	..	..	..	..	..	619 19 7	..	..	2,239 10 5	736 16 3	293 16 7	..	1,030 12 10	3,270 3 8
..	..	..	..	2 15 8	..	..	..	..	2 15 8	47 14 10	..	..	47 14 10	47 14 10
..	..	..	..	..	..	..	..	..	..	11 8 2	..	..	11 8 2	2 15 8
..	2,556 0 11	..	..	2 15 8	..	717 16 1	71 16 4	..	3,348 9 0	1,227 0 2	466 5 9	..	1,693 5 11	5,041 14 11				

CLERMONT WORKING PLAN AREA.

R. 117	..	..	..	..	..	..	..	..	1,210 4 6	472 17 7	188 1 8	..	655 19 8	1,866 3 9
R. 127	..	..	..	..	..	..	..	..	12,572 7 1	5,661 17 1	2,096 2 7	..	7,660 19 8	20,242 6 9
Administration	..	..	..	..	..	..	..	..	6,753 0 5	2,507 15 6	1,096 6 5	..	8,604 1 11	10,357 2 4
Experiments	..	..	..	..	..	..	..	..	1,603 8 9	386 8 1	201 19 0	..	538 7 1	2,191 15 10
Depot Stock Account	..	..	..	..	..	..	..	..	1,783 7 1	666 5 8	388 3 9	..	1,054 9 5	2,337 16 6
..	..	..	..	..	..	..	..	..	1,634 10 6	843 19 6	235 0 2	..	1,078 19 9	2,778 19 3
..	..	..	..	..	..	..	..	..	4,675 1 2	2,294 6 4	949 3 8	..	3,243 10 0	7,918 11 2
..	..	..	..	..	..	..	..	..	1,130 14 11	733 8 10	118 13 8	..	852 2 1	1,982 17 0
..	..	..	..	..	..	..	..	..	1,367 7 6	626 3 9	..	..	626 3 9	1,626 3 9
..	..	..	..	..	..	..	..	..	2 12 10	..	..	..	..	2 12 10
..
..	3,899 5 10	..	..	2 12 10	..	25,996 15 10	629 10 6	2,264 18 9	32,793 3 9	14,545 13 11	5,180 10 6	..	10,726 4 5	52,519 8 2

DALBY WORKING PLAN AREA.

R. 4	..	..	..	..	..	..	..	..	1,210 4 6	472 17 7	188 1 8	..	655 19 8	1,866 3 9
R. 16	..	..	..	..	..	..	..	..	12,572 7 1	5,661 17 1	2,096 2 7	..	7,660 19 8	20,242 6 9
R. 78	..	..	..	..	..	..	..	..	6,753 0 5	2,507 15 6	1,096 6 5	..	8,604 1 11	10,357 2 4
R. 88	..	..	..	..	..	..	..	..	1,603 8 9	386 8 1	201 19 0	..	538 7 1	2,191 15 10
R. 93	..	..	..	..	..	..	..	..	1,783 7 1	666 5 8	388 3 9	..	1,054 9 5	2,337 16 6
R. 150	..	..	..	..	..	..	..	..	1,634 10 6	843 19 6	235 0 2	..	1,078 19 9	2,778 19 3
R. 154	..	..	..	..	..	..	..	..	4,675 1 2	2,294 6 4	949 3 8	..	3,243 10 0	7,918 11 2
R. 155	..	..	..	..	..	..	..	..	1,130 14 11	733 8 10	118 13 8	..	852 2 1	1,982 17 0
Administration	..	..	..	..	..	..	..	..	1,367 7 6	626 3 9	..	..	626 3 9	1,626 3 9
Fire-fighting and Patrol	..	..	..	..	..	..	..	..	2 12 10	..	..	..	..	2 12 10
Experiments	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Depot Stock Account and Drum Account	..	..	..	..	..	..	..	..	..	..	..	..	..	..
..
..
..	3,899 5 10	..	..	2 12 10	..	25,996 15 10	629 10 6	2,264 18 9	32,793 3 9	14,545 13 11	5,180 10 6	..	10,726 4 5	52,519 8 2

FRASER ISLAND WORKING PLAN AREA.

R. 3	217 10 7	816 10 6	..	..	..	..	..	..	3,177 1 5	2,811 12 0	1,107 16 10	..	3,919 8 10	7,096 10 3
Administration	..	..	..	..	..	..	..	..	88 1 11	63 5 5	..	..	63 5 5	63 5 5
Fire-fighting and Patrol	..	..	..	..	..	..	..	..	15 11 9	..	..	..	..	15 11 9
Maintenance Radio—Station V.C.L.	..	..	..	..	..	..	..	..	79 10 11	..	..	..	..	79 10 11
Experiments	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Depot Stock Account and Drum Account	..	..	..	..	..	..	..	..	..	..	..	..	..	..
..
..
..
..
..	217 10 7	816 10 6	..	..	..	..	..	..	3,310 6 0	2,810 5 6	1,107 16 10	..	3,918 2 4	7,228 8 4

APPENDIX H—continued.

Reserve.	Reforestation.				Surveys.	Protection, Fire-fighting, Pest-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.		
I	2	3	4	5	6	7	8	9	10	11	12	13	14	15
King Areas	78 12 10	129 16 2	1,750 19 4	306 14 11	464 1 8	5,955 15 4	78 12 10	1,641 10 5	1,088 14 4	..	..	..	2,730 4 9	8,636 10 1
Ponnua	608 3 2	218 14 11	2,180 0 2	99 16 2	114 10 0	3,141 10 7	3,141 10 7	1,574 2 5	1,656 6 2	..	..	..	1,230 8 7	4,371 19 2
Traweston	..	120 2 4	..	75 18 7	182 15 7	1,034 1 11	1,034 1 11	444 14 2	922 19 3	..	..	..	467 6 5	1,751 8 4
R. 82 and R. 242	2,686 10 3	..	482 9 7	50 12 5	327 19 0	1,794 4 4	1,794 4 4	1,681 0 3	1,432 13 10	..	..	..	2,883 4 1	7,567 8 5
R. 124	3,277 2 9	..	382 18 8	38 1 2	221 7 7	5,766 19 5	5,766 19 5	1,825 4 5	1,433 1 1	..	..	..	3,053 4 6	8,915 4 11
R. 234	..	247 15 6	..	..	..	1,901 11 7	1,901 11 7	2,453 4 5	1,290 10 6	..	..	..	2,703 14 3	8,105 5 10
R. 392	2,283 18 2	332 5 8	526 4 4	112 1 1	208 11 3	4,805 10 3	4,805 10 3	2,462 8 8	1,739 4 7	..	..	..	4,504 11 3	11,669 11 16
R. 393	36 3 4	22 11 11	2,919 16 11	2,919 16 11	1,666 0 9	1,155 6 4	..	..	..	2,821 10 3	5,743 14 11
R. 451	1,696 7 7	1,696 7 7	693 4 1	383 18 2	..	..	..	1,057 10 9	2,693 12 5
R. 502	1,661 9 6	1,661 9 6	543 4 1	440 2 5	..	..	..	1,033 6 6	2,694 18 9
R. 627	2,558 6 8	2,558 6 8	1,036 7 2	..	..	..	..	1,036 7 2	2,593 6 8
Administration
Fire-fighting and Patrol
Experiments
Depot Stock Account and Drum Account	10,081 16 7	1,468 16 10	2,954 5 10	29 18 9	..	..	..	..	..	Cr. 824 11 11	..	..	Cr. 824 11 11	Cr. 824 11 11
	1,101 9 0	17,906 8 4	604 0 1	1,607 1 3	35,703 16 8	12,038 4 11	8,501 17 8	..	20,540 2 7	56,243 19 3
R. 48	..	141 3 10	..	..	..	414 8 4	..	..	555 7 2	199 6 1	70 1 10	..	878 7 11	882 15 1
R. 76	..	32 4 3	..	..	..	204 15 10	..	..	1,237 0 1	42 15 5	47 14 10	..	110 8 7	827 7 4
R. 79	1,149 9 8	22 7 1	..	1,121 18 9	690 17 11	234 11 11	..	625 9 10	2,067 6 7
R. 81	423 6 10	1 13 9	..	1,427 5 7	104 14 0	39 16 8	..	242 1 18	1,671 17 10
R. 101	1,029 5 8	..	..	1,029 5 8	444 14 1	170 8 9	..	573 2 10	1,604 8 6
R. 117	78 17 1	..	..	78 17 1	316 0 3	170 4 8	..	497 0 3	1,004 9 6
R. 119	846 15 6	..	..	846 15 6	916 18 0	..	..	487 13 5	1,323 18 14
R. 120	41 6 6	..	..	41 6 6	636 16 9	83 1 8	..	1,074 18 2	2,736 7 10
R. 122	1,715 8 0	5 11 8	..	1,720 19 8	633 16 6	383 11 7	..	1,927 16 9	546 18 8
R. 125	323 1 11	..	..	323 1 11	253 16 2	98 0 7	..	223 16 9	82 6 8
R. 132	38 15 2	..	..	38 15 2	472 19 0	19 12 4	..	43 12 1	1,82 6 3
R. 134	..	288 18 8	..	..	..	302 10 5	15 17 1	..	607 6 2	472 19 0	129 16 10	..	688 0 8	1,200 6 10
R. 136	49 19 1	..	..	49 19 1	5 16 8	2 12 4	..	8 9 0	58 8 1
Administration	520 12 0	..	..	520 12 0	579 11 9	..	..	579 11 9	579 11 9
Fire-fighting and Patrol
Maintenance, Whetstone 2
Maintenance, Telephone 42 Line
Maintenance, Telephone 77 Line
Depot Stock Account and Drum Account	..	462 6 9	..	..	..	7,140 7 0	113 14 2	..	7,716 7 11	Cr. 69 6 2	1,324 13 5	..	Cr. 69 6 2	12,735 1 7

GYMPIE WORKING PLAN AREA.

INGLEWOOD WORKING PLAN AREA.

APPENDIX H—continued.

Reserve.	Reforestation.					Surveys.	Protection, Fire-fighting, Clearing, &c.	Maintenance of Capital Improvements.	New Construction of Nurseries, Buildings, &c.	Total of Columns 2-9.	Overhead Expenses.			Total Overhead.	Reserve Total.
	Plantations.		Nursery Working and Maintenance.	Forest Experiment.	Unemp. Insurance.						Stores, Fodder, Supervision, &c.	Holidays, Wet Time, &c.			
	£ s. d.	£ s. d.											£ s. d.		
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.	
R. 137	592 7 2	..	995 18 5	..	145 5 6	108 17 6	151 2 11	99 17 5	2,093 8 11	1,099 8 7	485 16 5	..	1,595 5 0	3,688 13 11	
R. 207 and R. 209	1,310 7 10	..	..	..	24 8 3	227 18 4	21 0 8	..	2,183 15 1	542 8 6	641 13 10	..	1,183 17 4	3,867 12 5
R. 274	..	..	..	..	3 14 4	..	..	..	18 14 7	..	..	..	..	3 14 4
R. 484	..	..	..	..	16 7 5	..	..	..	19 7 4	..	..	..	..	16 7 5
R. 480	..	..	..	..	2 0 4	..	..	..	..	..	..	..	..	2 0 4
R. 687	..	..	..	..	..	..	..	..	914 11 5	300 18 2	154 11 2	..	455 9 4	1,370 0 9
Administration	..	..	..	..	..	..	..	..	162 18 2	33 4 9	..	..	33 4 9	162 18 2
Fire-fighting and Patrol	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Drum Account	2,502 15 0	..	995 18 5	..	191 15 10	489 14 0	172 3 7	1,014 8 10	5,376 15 8	1,946 2 6	1,292 1 5	..	3,238 3 11	8,614 19 7	
R. 24	1,670 2 0	985 8 11	..	..	8 0 2	1,307 9 10	53 4 11	52 12 7	2,398 16 3	987 16 11	345 3 7	..	1,383 0 6	3,731 10 9
R. 138	261 3 9	..	695 3 4	..	56 4 3	206 17 11	0 2 4	132 18 6	1,894 9 5	581 15 0	413 18 3	..	995 13 3	2,889 15 8	
R. 154	2,356 9 4	23 15 3	355 8 8	..	9 5 2	195 19 6	21 1 6	73 12 11	3,430 16 10	1,413 3 2	230 2 1	..	2,284 9 3	1,968 19 6	
R. 230 and R. 301	..	..	..	..	..	603 13 4	32 12 5	35 12 3	3,789 13 6	1,431 3 0	871 6 1	..	340 15 2	5,715 6 1
R. 291	4,276 2 5	..	1,203 17 8	..	47 16 1	646 13 2	78 14 6	184 17 1	6,387 10 11	2,478 2 1	1,433 15 0	..	4,431 17 11	1,109 8 8	
R. 298	235 8 8	..	569 6 0	..	3 13 11	230 11 10	1 11 2	9 11 1	4,377 10 11	341 3 2	66 12 1	..	187 14 3	10,819 8 10	
R. 355	..	..	..	..	..	611 6 8	10 13 3	30 11 10	1,225 11 8	366 3 3	174 8 10	..	540 12 1	663 1 0
R. 424/7	..	..	..	..	..	627 0 11	..	..	1,225 11 8	122 2 9	..	..	122 2 9	1,766 3 9
Administration	..	..	..	..	..	..	..	..	627 0 11	Cr. 336 14 11	..	..	Cr. 336 14 11	627 0 11
Fire-fighting and Patrol	..	..	..	..	..	..	..	..	..	..	..	..	..	122 2 9
Depot Stock Account and Drum Account	8,806 6 2	1,009 4 2	2,823 10 8	..	124 19 7	5,125 14 2	211 2 1	469 13 3	18,570 10 1	6,799 1 3	3,694 17 8	..	10,493 18 11	29,064 9 0	
R. 23	2,092 9 1	..	8 5 5	..	8 12 11	1,391 1 10	..	785 12 3	1,391 1 10	412 18 0	508 19 3	..	921 17 3	2,312 19 1	
R. 67	..	..	187 10 0	..	..	17 5 8	..	32 3 10	8,511 7 4	774 17 10	144 6 6	..	319 4 4	1,130 7 8
R. 95	..	..	739 15 7	..	..	892 8 10	62 12 10	2 19 8	3,275 17 6	1,705 11 8	774 19 7	..	2,480 11 3	5,756 8 9
R. 176	..	..	4 16 8	..	..	11 13 7	15 14 11	110 10 11	4 13 8	20 1 4	2 19 4	..	23 0 8	27 13 11
R. 179	..	..	..	..	..	11 10 10	1 13 6	..	1,166 18 7	41 3 5	63 5 3	..	104 8 8	1,271 4 3
R. 193	..	..	..	..	..	7 17 1	..	..	124 18 2	121 2 9	3 1 7	..	10 8 6	135 6 6
Administration	..	..	..	..	..	..	..	..	463 9 8	..	..	..	121 2 9	121 2 9
Fire-fighting and Patrol	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Depot Stock Account and Drum Account	2,092 9 1	..	940 7 8	..	8 12 11	2,785 7 6	83 0 11	1,328 1 3	7,237 19 4	2,470 6 2	1,497 11 6	..	3,976 17 8	11,214 17 0	

KILCOY WORKING PLAN AREA.

KILKIVAN WORKING PLAN AREA.

MANY PEAKS WORKING PLAN AREA.

APPENDIX I.
Areas of Plantation Established.

Working Plan Area.	Reserve No.	Eucalypts. (Acres.)		Softwoods. (Acres.)		Other Species. (Acres.)		All Species. (Acres.)	
		1946-47.	To 30th June, 1947.	1946-47.	To 30th June, 1947.	1946-47.	To 30th June, 1947.	1946-47.	To 30th June, 1947.
Brisbane Valley and Nanango	283	30.0	220.0	243.0	*3,084.7	..	..	273.0	3,304.7
	289	3.0	246.9	215.0	2,564.5	3.0	9.0	221.0	2,820.4
	120	..	75.0	..	867.8	..	..	..	942.8
	379	..	..	..	40.0	..	..	..	40.0
	257	..	104.5	..	1,293.1	..	..	..	1,397.6
	299	..	20.0	..	1,405.5	..	..	..	1,425.5
	151	..	..	..	148.0	..	..	..	148.0
509	..	..	..	680.9	..	..	..	680.9	
Totals	..	33.0	666.4	458.0	10,084.5	3.0	9.0	494.0	10,759.9
Fraser Island	3	..	161.0	..	749.5	..	..	..	910.5
Kilcoy	893	..	142.5	..	1.5	..	..	..	144.0
	137	..	2.5	..	721.2	..	..	..	723.7
	207	..	2.0	112.0	373.0	..	..	112.0	375.0
Totals	..	..	147.0	112.0	1,095.7	..	..	112.0	1,242.7
Gympie	392	..	..	79.0	608.5	..	..	79.0	608.5
	502	..	60.0	..	..	..	..	..	60.0
	393	..	333.0	..	..	..	..	..	333.0
	234	..	54.0	..	..	..	..	..	54.0
	124	..	..	102.0	993.7	..	..	102.0	993.7
	242	..	..	122.0	725.0	..	..	122.0	725.0
	Pomona	136.0	136.0	..	..	..	..	136.0	136.0
Totals	..	136.0	583.0	303.0	2,327.2	..	..	439.0	2,910.2
Kilkivan	355	..	8.0	..	127.5	..	..	..	135.5
	220	..	..	55.0	734.4	..	..	55.0	734.4
	298	..	77.4	174.0	1,116.8	..	..	174.0	1,194.2
	154	..	14.0	..	124.0	..	..	..	138.0
	138	..	5.0	89.0	185.0	..	..	89.0	190.0
Totals	..	..	104.4	318.0	2,287.7	..	..	318.0	2,392.1
Mackay	12	..	..	..	30.5	..	..	..	30.5
Many Peaks	95	..	..	67.5	958.1	..	..	67.5	958.1
Mary Valley	135	..	6.0	327.0	5,171.7	..	1.0	327.0	5,178.7
	435	..	2.0	..	2,624.2	..	..	..	2,626.2
	256	..	..	..	134.2	..	..	..	134.2
	274	..	..	91.0	212.1	..	..	91.0	212.1
Totals	..	..	8.0	418.0	8,142.2	..	1.0	418.0	8,151.2
North Coast	561	..	5.0	..	1,323.0	..	6.7	..	1,334.7
	589	..	12.0	406.0	2,633.0	..	..	406.0	2,645.0
	611	..	377.8	..	..	..	..	..	377.8
	318	..	..	..	..	..	..	..	..
	583	..	175.0	..	43.5	..	..	..	218.5
	249	..	20.0	..	..	..	..	..	20.0
Totals	..	..	589.8	406.0	3,999.5	..	6.7	406.0	4,596.0
North Queensland..	185	..	..	23.8	23.8	14.4	14.4	38.2	38.2
	191	..	51.8	..	581.1	..	24.8	..	657.7
	194	..	109.5	..	22.0	..	12.5	..	144.0
	310	..	13.8	..	392.9	..	360.0	..	766.7
	418	..	..	..	..	..	4.0	..	4.0
Totals	..	..	175.1	23.8	1,019.8	14.4	415.7	38.2	1,610.6
Warwick	263	..	0.3	77.0	1,134.0	..	18.5	77.0	1,152.8
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
Dalby	93	..	..	..	1.0	..	..	..	1.0
Rockhampton	20	..	..	..	7.0	..	..	..	7.0
Gympie	451	..	..	..	17.9	..	..	..	17.9
Bribie Island	603	..	..	..	0.7	..	..	..	0.7
Totals	..	..	4.0	..	87.3	..	9.7	..	101.0
Grand Totals	..	169.0	2,439.0	2,183.3	31,916.0	17.4	460.6	2,369.7	34,815.6

* Allowance made for 44 acres lost by fire.

APPENDIX J.—continued.

Areas of Natural Forest Treated—continued.

Working Plan Area.	Reserve No.	Eucalypts. (Acres.)			Softwoods. (Acres.)			Other Species. (Acres.)			All Species. (Acres.)
		Treated 1946-47.	First Treatment 1946-47.	Total as at 30th June, 1947.	Treated 1946-47.	First Treatment 1946-47.	Total as at 30th June, 1947.	Treated 1946-47.	First Treatment 1946-47.	Total as at 30th June, 1947.	Total as at 30th June, 1947.
Kilkivan	221	80	..	1,730	..	..	560	..	..	..	2,290
	220	..	..	..	..	..	155	..	..	..	155
	355	..	..	..	..	..	40	..	..	..	40
	26	..	..	..	..	..	150	..	..	..	150
	494	..	..	1,350	..	..	..	..	..	..	1,350
	24/12	2,800	2,740	16,836	..	..	..	..	..	..	16,836
424/7	..	..	80	..	..	..	..	..	..	80	
Totals .. ..	..	2,880	2,740	19,996	..	..	905	..	..	..	20,901
Many Peaks	28	..	..	4,561	..	..	..	..	..	..	4,561
	150	..	..	1,811	..	..	..	..	..	..	1,811
Totals .. ..	..	..	..	6,372	..	..	..	..	..	..	6,372
Maryborough	287	..	..	..	..	..	240	..	..	..	240
	435	5,523	..	13,666	..	..	..	..	..	..	13,666
	59	..	..	1,147	..	..	..	..	..	..	1,147
	62	1,240	..	4,111	..	..	..	..	..	..	4,111
	12	1,425	1,305	5,130	..	..	..	..	..	..	5,130
	390	2,756	2,180	14,128	..	..	..	..	..	..	14,128
	8	..	..	12,208	..	..	..	..	..	..	12,208
	27	..	..	7,736	..	..	..	..	..	..	7,736
	1	..	..	1,639	..	..	272	..	..	..	1,911
Totals .. ..	..	10,944	3,485	59,765	..	..	512	..	..	..	60,277
Mary Valley	135	..	..	159	..	..	277	..	..	..	436
	435	..	..	..	..	..	70	..	..	55	125
Totals .. ..	..	..	..	159	..	..	347	..	..	55	561
North Coast	318	361	..	3,730	..	..	..	..	..	..	3,730
	313	..	..	1,824	..	..	..	..	..	..	1,824
	583	..	..	1,455	..	..	..	..	..	..	1,455
	445	..	..	3,612	..	..	..	..	..	..	3,612
	249	..	..	1,299	..	..	..	..	..	..	1,299
	60	25	..	1,410	..	..	..	..	..	..	1,410
	611	..	..	2,223	..	..	..	..	..	..	2,223
	589	..	..	53	..	..	..	..	..	..	53
	108	..	..	1,750	..	..	..	..	..	..	1,750
	173	572	..	2,499	..	..	..	..	..	..	2,499
	531	..	..	295	..	..	..	..	..	..	295
	370	..	..	1,220	..	..	..	..	..	..	1,220
	Totals	958	..	21,370
Gympie	393	360	..	3,020	..	..	..	..	..	..	3,020
	234	200	..	1,730	..	..	..	..	..	..	1,730
	502	130	..	1,568	..	..	..	..	..	..	1,568
	627	250	..	2,355	..	..	..	..	..	..	2,355
	700	..	..	3,672	..	..	..	..	..	..	3,672
	124	..	..	770	..	..	..	..	..	..	770
	Pomona	..	..	..	..	..	..	..	..	..	..
	Tewantin	..	107	107	..	..	..	..	..	..	107
Traveston	..	200	200	..	..	..	..	..	..	200	
Totals .. ..	..	940	307	13,422	..	..	..	..	..	..	13,422
North Queensland	191	..	..	..	..	..	..	..	..	53	53
	194	..	..	175	..	..	..	..	..	..	175
	310	..	..	..	..	..	..	..	..	128	128
	418	..	..	..	..	..	..	..	..	43	43
	452	..	..	..	..	..	..	..	..	20	20
	245	..	..	339	..	..	..	..	..	..	339
	243	..	..	1,457	..	..	..	..	..	..	1,457
Totals .. ..	..	..	..	1,971	..	..	..	..	..	244	2,215
Warwick	444	1,250	..	2,700	..	..	..	..	..	..	2,700
	574	1,419	..	4,022	..	..	..	..	..	..	4,022
Totals .. ..	..	2,669	..	6,722	..	..	..	..	..	..	6,722
Grand Totals .. ..	..	46,256	13,934	278,143	8,847	5,092	176,760	..	..	405	455,308

APPENDIX K.

Summary of Forest Survey Work—Year ending 30th June, 1947.

Reserve.	Parish.	Area in Acres.
CLASS 1—INSPECTION OF VACANT CROWN LAND AND TIMBER RESERVES.		
756	Jordan (part)	4,022
18,174	Clifford, Winterbourne	53,440
	Total	57,462
CLASS 2—ASSESSMENT SURVEYS.		
756	Jordan	4,426
350	Niagara (proceeding)	1,200
30	Garioch (proceeding) .. .. .	..
Wendul Holding	Badgery	38,500
Badgery Holding	Badgery	3,500
Badderam Holding	Western Creek	6,750
Kirrama Holding	Blencoe	2,000
Portions 4, 5 ..	Bulli	21,940
Portions 531, &c.	Dirran	1,501
Portions 1 to 6	Stapylton	6,690
Portion 49 ..	King	714
Portion 260 ..	Tuchekoi	176
Portions 40, &c.	Ravenshoe, Woodleigh	3,669
16	Ballon	40,000
14 &c	Hookwood, &c.	89,266
	Total	220,332
CLASS 3—INTENSIVE CONTOUR AND ASSESSMENT SURVEYS.		
344	Bankton	8,000
COMPARTMENT, FIREBREAK OR SOIL SURVEYS.		
14, 47, 86	Hookwood, &c.	6,000
16	Ballon	11,000
Repurchase	Tewantin	3,558
Vacant Crown Land ..	Poona (proceeding)	3,000
	Total	23,558

FOREST INVENTORY SURVEY.

Reserve.	Parish.	Area Stripped. (Acres.)	Plots Dealt With.
154	Vignoles .. .. .	..	173
150	Dunmore .. .. .	..	125
16	Malcolm .. .. .	..	923
54, 16	Ballon	40,000	499
135	Brooloo .. .. .	..	150
289	Cooyar .. .. .	..	100
120	Neumgna .. .. .	..	30
283	Colinton .. .. .	..	107
	Total	40,000	2,107

MISCELLANEOUS SURVEYS.

Reserve and Parish.	Compartment Number.	Logging Area.	Mls. Chs.	Remarks.
135 Cambroon .. .. .	..	Woodrow	6 67	Planting
274 Cambroon .. .. .	..	Allen	2 38	
135 Brooloo .. .. .	..	Araucaria, &c.	15 64	Road
124 Glastonbury .. .. .	..	Moorooreerai, &c.	14 72	
242 Widgee .. .. .	..	Spring, Central	0 42	Boundaries
220 Kilkivan	11a, 15b	Gallangowan	6 46	
298 Gallangowan	1		..	19 25	Scrub breaks
435 Gundiah .. .. .	..	..	6 13	
904 Palmerston .. .. .	..	Jiggera, Atthow	9 03	Road
137 Yabba .. .. .	..	Jimna	1 69	
207 Monsildale .. .. .	..	Winch	0 44	Planting
207 Monsildale .. .. .	..	Pocket	2 37	
120 Neumgna	1, 3, 4, 5 ..	Tarong	6 58	Road, planting
289 Cooyar	8, 9, 11, 12	Cooyar .. .. .	..
289 Cooyar	13, 3a ..	Paradise	1 35	Planting
299 Avoca	1, 6 ..	Googa	1 22	
257 Cooyar	7, 11, 12 ..	..	3 32	Planting
258 Cooyar	1, 6, 7 ..	West Barker	0 21	
151 Neumgna	3 ..	Twins	10 46	Planting
638 Beerwah .. .. .	..	Six Mile	48 39	
589 Beerwah .. .. .	..	..	12 65	Species
263 Pikedale .. .. .	..	Hunting	1 14	
95 New Cannindah	2 ..	McNae	1 69	Planting
95 New Cannindah	1 ..	..	..

APPENDIX L.

State Forests, Timber Reserves, and National Parks at 30th June, 1947.

	State Forests.			Timber Reserves.			National Parks.		
	No.	Area.		No.	Area.		No.	Area.	
		A.	R. P.		A.	R. P.		A.	R. P.
Atherton	12	49,054	1 30	8	60,509	2 26	5	3,552	2 0
Bowen .. .. .	..	..	..	8	99,020	0 0	35	114,467	0 0
Brisbane	64	184,399	3 21	39	91,132	2 33	35	57,632	1 2
Bundaberg	30	120,844	0 27	26	114,975	1 6	..	..	..
Cairns	6	108,810	0 36	13	444,073	2 0	20	92,300	3 24
Charleville .. .. .	..	..	..	2	20,037	0 0	..	..	..
Charters Towers .. .. .	..	..	..	2	125,550	0 0	..	..	..
Clermont	2	126,500	0 0	2	44,390	0 0	..	..	..
Cloncurry .. .. .	..	..	..	1	4,290	0 0	..	..	..
Cooktown .. .. .	..	..	..	8	623,510	0 0	7	10,691	0 0
Dalby	31	711,758	3 14	9	61,152	3 24	1	13,100	0 0
Gayndah	1	4,790	0 0	12	41,396	1 3	..	..	..
Gladstone	5	35,490	0 0	24	81,843	3 14	4	230	0 0
Goondiwindi	3	17,917	2 0	1	3,170	0 0	..	..	..
Gympie	40	270,009	2 36	25	81,017	0 23	5	922	2 7
Herberton	7	73,644	1 32	8	69,085	1 23	5	3,361	3 28
Ingham .. .. .	..	..	..	3	68,890	0 0	3	1,835	0 0
Inglewood	19	185,476	2 35	3	8,397	0 35	..	..	..
Innisfail .. .. .	..	..	..	11	402,082	2 18	20	105,987	1 31
Ipswich	29	155,302	2 24	23	66,487	3 0	2	4,344	0 0
Jundah .. .. .	..	..	..	1	25,600	0 0	..	..	..
Mackay	1	18,450	0 0	19	149,385	0 0	50	144,761	0 0
Maryborough	72	560,412	1 20	31	55,947	3 19	3	805	0 0
Monto	11	96,480	3 20	16	129,843	2 32	..	..	..
Nanango	46	217,983	2 34	12	6,260	2 5	1	9,605	2 18
Rockhampton	7	171,068	1 0	15	103,863	2 22	16	2,813	2 0
Roma	10	89,434	3 22	1	8,600	0 0	1	65,000	0 0
Springsure .. .. .	..	..	..	1	20,500	0 0	..	..	..
Stanthorpe	3	6,585	1 18	..	..	..	6	12,604	3 0
St. George .. .. .	..	..	..	1	3,072	0 0	..	..	..
Taroom	3	21,486	0 0	4	33,185	2 0	..	..	..
Toowoomba	19	203,208	1 24	15	27,805	1 27	5	3,552	0 0
Townsville	1	23,123	0 0	2	17,199	1 31	1	60,000	0 0
	422	3,457,231	1 33	346	3,092,274	1 21	225	707,566	1 30

At 30th June, 1947—

	A.	R. P.
Total Area reserved for State Forests	3,457,231	1 33
Total Area reserved for Timber Reserves	3,092,274	1 21
Total Area reserved for National Parks	707,566	1 30
Total Reservations	7,257,072	1 4

APPENDIX M.

Reservations for the year ended 30th June, 1947.

State Forests.—Twenty-one State Forests with a total area of 54,305 acres were proclaimed during the year. The largest of these are as follows:—

Acres.		Land Agent's Districts.
25,750	Reserve 20, Maryvale	Rockhampton
4,320	Reserve 638, Beerwah	Brisbane
4,282	Reserve 171, Waggaba	Toowoomba
4,093	Reserve 54, Umbercollic	Goondiwindi
3,831	Reserve 175, Formartine	Cairns
2,429	Reserve 172, Weranga	Dalby
1,559	Reserve 906, Gutchy	Gympie
1,278	Reserve 58, Burraburri	Dalby
1,248	Reserve 940, Gundiab	Maryborough
1,133	Reserve 727, Nerang	Brisbane
907	Reserve 559, Brooyar	Gympie

APPENDIX M.—continued.

Timber Reserves.—At 30th June, 1947, the number of Timber Reserves is 346 as against 331 at 30th June, 1946.

Twenty-four new areas with a total of 78,875 acres were reserved, the largest being—

Acres.		Land Agent's District.
24,880	Reserve 39, Borania .. .. .	.. .. . Monto
23,960	Reserve 168, Calrossie and Trevethan .. .. .	.. .. . Monto
7,246	Reserve 165, Ferrett .. .. .	.. .. . Dalby
5,478	Reserve 64, Beeron .. .. .	.. .. . Gayndah
5,026	Reserve 167, Ferrett .. .. .	.. .. . Dalby
1,847	Reserve 952, Tewantin and Tuckekoi .. .. .	.. .. . Gympie
1,455	Reserve 681, Kilcoy .. .. .	.. .. . Brisbane
1,439	Reserve 567, Glenbar .. .. .	.. .. . Maryborough
1,177	Reserve 565, Glenbar .. .. .	.. .. . Maryborough
1,110	Reserve 734, Palen .. .. .	.. .. . Brisbane
1,055	Reserve 566, Glenbar .. .. .	.. .. . Maryborough
1,033	Reserve 951, Traveston .. .. .	.. .. . Gympie

25,563 acres were converted to State Forests, 480 acres converted to National Park, and 3,427 acres were released for selection.

1,700 acres were added to existing reserves.

National Parks.—Four new National Parks with a total of 1,231 acres were proclaimed during the year, these being—

Acres.		Land Agent's District.
820	Reserve 733, Numinbah .. .. .	.. .. . Brisbane
287	Reserve 724, Roberts .. .. .	.. .. . Brisbane
78	Reserve 731, Numinbah (Sphinx Lookout) .. .. .	.. .. . Brisbane
45	Reserve 41, Mudgeeraba (Burleigh Head) .. .. .	.. .. . Brisbane

1st JULY, 1946, TO 30th JUNE, 1947.

STATE FORESTS.		No.	A.	R.	P.
At 1st July, 1946 .. .. .	.. .. .	401	3,402,926	2	8
Proclaimed 1st July, 1946, to 30th June, 1947 .. .. .	.. .. .	21	54,304	3	25
Total at 30th June, 1947		422	3,457,231	1	33
TIMBER RESERVES.		No.	A.	R.	P.
At 1st July, 1946 .. .. .	.. .. .	331	3,041,169	3	14
Proclaimed 1st July, 1946, to 30th June, 1947 .. .. .	.. .. .	24	78,874	3	18
V.C.L. added to existing Reserves .. .. .	.. .. .	..	1,700	0	0
Reserves cancelled		9	3,427	1	30
Total at 30th June, 1947		346	3,118,317	1	2
Converted to State Forests		25,562	3	21	
Converted to National Parks		480	0	0	
Total at 30th June, 1947		346	26,042	3	21
NATIONAL PARKS.		No.	A.	R.	P.
At 1st July, 1946 .. .. .	.. .. .	221	706,335	2	27
Proclaimed 1st July, 1946, to 30th June, 1947 .. .. .	.. .. .	4	1,230	3	3
Total at 30th June, 1947		225	707,566	1	30
Total Reservations at 30th June, 1947 .. .. .		..	7,257,072	1	4

APPENDIX N.

Expenditure Surveys—Financial Year 1946-1947.

PARTICULARS OF SURVEY—

Harvesting and Marketing Project—

	£	s.	d.
Inventory Survey R. 16, Malcolm and Ballon	3,993	2	2
Inventory Survey R. 150, Dunmore	179	19	5
Inventory Survey R. 154, Vignoles	585	9	2
Gympie Road Traverse—R. 393	7	0	8
Kilcoy—R. 104, Yabba	2	0	4
Mary Valley—18v, Cambroon	0	6	4
R. 496, Monsildale	4	1	2
Mary Valley—Miscellaneous Surveys	7	2	3
Tumoulin	294	8	10
Garioch	558	6	2
R. 353, Ongera	2,483	18	1
Kirrama	2,144	8	11
Total			£10,260 3 6

APPENDIX N.—*continued.*Expenditure Surveys—Financial Year 1946-1947.—*continued.*

Reforestation Branch Projects—							£	s.	d.
Brisbane—							0	7	2
R. 446, Miscellaneous									
Brisbane Valley—									
R. 120, Cpt. and Sub-Cpt. Surveys—S4							9	5	3
Firebreak Survey							1	18	9
Miscellaneous							5	0	9
Forest Inventory Survey							48	12	5
R. 151, Cpt. and Sub-Cpt. Survey							8	15	9
Miscellaneous							9	10	0
R. 257, Cpt. Survey							7	4	4
Firebreak							0	7	2
Miscellaneous							3	0	9
R. 258, Cpt. Survey							13	11	6
Firebreak							4	13	2
R. 283, Cpt. Survey							9	9	5
Miscellaneous							49	5	9
Forest Inventory							241	10	6
R. 289, Forest Inventory							165	5	10
Cpt. Survey							26	7	3
Firebreak							3	15	2
Miscellaneous							63	0	4
R. 299, Miscellaneous							0	16	7
R. 328/9, Miscellaneous							6	8	3
R. 379, Cpt. Survey							3	19	6
Miscellaneous							1	1	6
R. 527/9, Firebreak							20	11	3
Fraser Island—									
R. 3, Soil—Bidwell							1	6	1
Cpt. Survey							1	1	0
Miscellaneous							3	10	11
Gympie—									
King Areas, Class 3 Survey							78	13	10
Pomona—									
Timms							22	11	6
Class 3 Survey							10	0	7
Firebreak							97	4	2
Tewantin—Firebreak							605	9	4
Traveston—Miscellaneous							2	3	2
R. 82, 242, Firebreak							9	9	0
R. 124, Firebreak							217	13	1
Miscellaneous							31	5	9
R. 392, Cpt. Survey							1	12	0
Miscellaneous							25	6	7
Kilcoy—									
R. 137, Class 2 Survey							9	7	0
Class 3 Survey							32	2	8
Cpt. Survey							90	12	4
Miscellaneous							13	3	6
R. 207, Cpt. Survey							12	17	1
Firebreak							1	2	2
Miscellaneous							10	9	0
R. 274, Miscellaneous							3	14	4
R. 434, Cpt. Survey							16	7	5
R. 480, Miscellaneous							2	0	4
Kilkivan—									
R. 138, Firebreak							8	0	2
R. 154, Cpt. Survey							8	16	10
Firebreak							47	7	5
R. 220, Firebreak							9	5	2
R. 298, Firebreak							47	16	1
R. 355, Firebreak							3	13	11
Many Peaks—									
R. 95, Firebreak							8	12	11
Maryborough—									
Poona—									
Surveys							7	13	0
Soil Surveys							714	17	3
Tin Cay Bay Area—									
Planting Surveys							165	12	9
R. 1, Soil Surveys							12	2	11
Miscellaneous							66	0	4
R. 8, Miscellaneous							3	8	2
R. 390, Miscellaneous							18	4	3
R. 435, Survey—Improvements							20	15	8
Mary Valley—									
R. 135, Firebreak							294	15	10
R. 274, Firebreak							42	5	9
R. 274, Miscellaneous							10	15	0
North Coast—									
R. 318, Cpt. Survey							4	11	3
Firebreak							3	9	1
Miscellaneous							9	13	7
R. 561, Cpt. Survey							14	6	3
Miscellaneous							1	5	6
R. 589, Cpt. Survey							181	10	1
Soil Surveys							145	18	10
Miscellaneous							183	16	3
R. 638, Cpt. Surveys							141	2	8
Soil Surveys							6	19	6
Miscellaneous							16	11	3

APPENDIX N.—*continued.*Expenditure Surveys—Financial Year 1946-1947.—*continued.*

										£	s.	d.
North Queensland—												
R. 185, Surveys	..	..	..	..	..	..	..	..	..	2	9	6
Warwick—												
R. 263, Plots F.I.S.	..	..	..	..	..	..	..	..	..	7	2	6
Miscellaneous	..	..	..	..	..	..	..	..	..	15	11	4
										<hr/>		
										£4,227	12	2
										<hr/>		
Total Expenditure	..	..	..	..	..	..	..	..	..	£14,487	15	8

APPENDIX O.

Distribution of Personnel, 30th June, 1947.

Salaried Officers	..	..	..	..	..	..	..	..	..	..	..	236
Other Employees	..	..	..	..	..	..	..	..	..	..	..	1,435
												<hr/>
												1,671