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**ANNUAL REPORT**

**OF THE**

**SUB-DEPARTMENT OF FORESTRY**

**FOR THE**

**YEAR 1940-41.**

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# Report of the Director of Forests for the Year ended 30th June, 1941.

The Hon. the Minister for Lands.

SIR,—I have to present herewith my report for the year ended 30th June, 1941.

## INTRODUCTION.

The past twelve months, during which Australia has been at war, have been an extremely busy period for this Department and the timber industry.

The demand for timber, particularly for pine, has been intensified, and no effort has been spared by the Department to meet the increased demand. When it is considered that the staff has been weakened by enlistments and military training, it is entitled to commendation for having handled an output of 15,365,000 superficial feet of mill logs in excess of the previous record year.

The persistent demand for hoop pine for many special purposes has still further emphasised the outstanding qualities of this timber. The importance of building up by plantation an adequate softwood resource of hoop and kauri pine has been amply demonstrated. The plantation programme of these species should be considerably expanded.

The increased utilisation of secondary scrub species by ply mills and case mills is a war development which is of considerable interest. Certain special uses are being found for several species, and these markets should be held after the war.

The large plywood industry of Queensland has been developed on hoop, bunya, and kauri pines. Suitable supplies of these species are rapidly disappearing. In no part of Australia are there better prospects of the continuation of this industry than in North Queensland, where large quantities of timber exist capable of being veneered and manufactured into plywood.

However, a note of warning should be sounded in this regard. If the present industry and the present utilisation developments are to be not only maintained but also expanded in the future, then an adequate area of timber land must be permanently reserved and managed for this purpose. The economic value of a permanent industry of the present magnitude is obviously of such importance in comparison with one operated on the "cut out—get out" policy that it warrants a special effort to reserve a forest area capable of providing an annual growth equal to the annual log requirements of the industry.

Every effort is being made by the Department to assist in providing the maximum amount of sawn timber for use in the war effort. There are certain limiting factors which restrict the output of sawn timber—i.e., man-power in the forest, railway wagons, man-power in mills, kiln-drying capacity, &c.

In view of our limited resources of pine, the Department would prefer to encourage the recent development in the utilisation of secondary scrubwoods and reserve pine for use for special purposes only. However, from a consideration of the limiting factors abovementioned, the utilisation of secondary species can only be developed to a certain degree in South Queensland before detrimentally affecting the output of sawn pine and the local output of sawn timber.

Whilst the Crown log cut increased by over 15,000,000 superficial feet, the total log consumption of all mills increased by only 5,000,000 superficial feet, indicating a reduced production of private logs by 10,000,000 superficial feet.

The Crown forests supply only one-third of hardwood mill log cut, and, although the Crown output was slightly increased, the private land supplies show a reduction of 10,000,000 superficial feet.

This reduction supports previous official forecasts to the effect that, as private lands are not being managed for permanent production of hardwood, the output will progressively diminish.

To safeguard the future, large areas of hardwood country must be added to the present permanently reserved area and be fire-protected and managed in perpetuity for the maximum production of hardwood.

The fire season of last year was the worst yet experienced, and subjected the fire detection and protective system to a severe trial. The results proved that the system is sound, but must be extended as rapidly as possible to cover all areas worthy of protection.

## SILVICULTURE AND MANAGEMENT.

The most protracted, widespread, and serious fire season in the history of the Department was experienced last year. While conditions, generally, did not reach the "blow up" days of October, 1936, yet the latter were of comparatively short duration, during which time many areas escaped actual fires. No district was free of the hazard this year.

Some indication of the seriousness of the season is given by the expenditure of £11,632 on fire patrol, observation, and fire-fighting.

A total of 257 outbreaks was reported on reservations or on country adjacent to reservations and sufficiently close to call for investigation and action.

Of this number, 53 occurred on or spread to treated hardwood or cypress pine forests and burned over an area of approximately 15,500 acres of treated country.

Three only of these were of major extent (area is of treated country burnt)—

	Acres.
S.F.R. 154, Brigalow (Dalby) .. ..	1,600
S.F.R. 150, Dunmore (Dalby) .. ..	3,400
S.F.R. 435, Gundiah (Maryborough) ..	3,000

The balance was confined to unit protection area or less. Both the Dalby fires originated externally and entered the reserves after "crowning" and throwing sparks up to 20 chains over back burn and external breaks, to subsequently "crown" again and defeat effort to confine to unit area.

A further loss experienced was 98 acres of hoop pine plantation on State Forest Reserve 95, New Cannindah. This was a three to five year old area which was set on fire by sparks distributed by a whirlwind arising in a scrub burning-off fire  $\frac{1}{2}$  mile distant.

Generally, the protection system was given a real tryout last year. It has established that existing improved break systems can handle all emergencies other than the extreme cases.

Plantation and regeneration works were carried out at a scale slightly reduced from that of the previous year.

## PLANTATIONS.

The total area of new plantations established during the year was 3,383.3 acres. This includes the replanting of the area lost by fire referred to above. Details are as follows:—

Working Plan Area.	Area in Acres.					Total.
	Hoop Pine.	Kauri Pine.	Euc. spp.	Pinus spp.	Other.	
Brisbane Valley .. ..	811.0	..	14.0	196.0	..	1,021.0
Gympie .. ..	277.0	118.0	..	..	..	395.0
Kilkivan .. ..	308.5	..	17.5	20.0	..	346.0
Kilcoy .. ..	246.2	..	..	52.8	..	299.0
Many Peaks .. ..	235.0	..	..	..	..	235.0
Mary Valley .. ..	416.0	110.0	..	16.0	..	542.0
North Coast .. ..	..	..	12.0	240.6	..	252.6
North Queensland .. ..	71.0	7.1	..	..	32.6	110.7
Warwick .. ..	..	..	..	132.0	..	132.0
Total .. ..	2,414.7	235.1	43.5	657.4	32.6	3,383.3

Planting was less by 570 acres than last year's area.

The usual high establishment resulted.

Two features of the operations were—

- (1) A general attainment of the desirable early planting of tubed stocks;
- (2) High survival of *Pinus patula* at Passchendaele.

With more areas coming in line for second and third plantings, the area covered in these operations increased considerably.

For the year 3,303 acres were dealt with, as follows:—

Working Plan Area.	Area Pruned (Acres).
North Queensland .. ..	126
Kilkivan .. ..	102
North Coast .. ..	955
Mary Valley .. ..	1,218
Gympie .. ..	52
Brisbane Valley .. ..	850
Total .. ..	3,303

No thinning was carried out, but an auction of 150,000 superficial feet of thinning from Beerwah plantations attracted competition. Unfortunately, the purchaser did not proceed, and arrangements are being made to offer an increased quantity next year.

#### NURSERIES AND SEED.

Work was recommenced on the construction of two new nurseries held up last year. Both should be in a position to take sowings in September, 1941.

Preparatory water supply investigations and well-sinking were put in hand for a further two hoop pine nurseries (S.F.R. 67, Bulburin, and S.F.R. 637, Kileoy).

Twenty-two nurseries were in production at 30th June, 1941, carrying, at that date, a total of 6,134,000 plants.

Output to plantations for the year totalled 2,139,000 trees.

No collection of hoop, bunya, or kauri pine seed was possible this year. Indications point to a fair crop of both hoop and bunya pines being available next December.

Collection of sufficient seed of *Pinus caribaea* and *Pinus taeda* to meet requirements was carried out at Beerwah. The collection of *Pinus caribaea* totalled 186 lb., and that of *Pinus taeda* 44 lb. A small collection of 5 lb. of *Pinus palustris* seed was also secured.

#### SCHOOL PLOTS.

Twelve new school forestry plots were established during the year, making the total 142 at 30th June, 1941. The very high standard of interest has been maintained.

Action to enlist the aid of the western schools in investigation of suitable trees for planting in Western Queensland met with a gratifying response, over twenty schools agreeing to carry out trial plantings. Many such schools have also signified their intention to assist the project further by the collection of seed of various western species.

#### NATURAL FORESTS.

The area of natural hardwood or cypress pine forests subjected to at least one treatment was raised to 406,502 acres.

The area covered in the year's operations was 66,855 acres, of which 37,032 acres received a first treatment.

Details are as follows:—

Working Plan Area.	Eucalypts.		Cypress Pine.		Total.	
	First Treatment.	Other.	First Treatment.	Other.	First Treatment.	Other.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
Brisbane .. .. .	2,071	1,685	..	..	2,071	1,685
Brisbane Valley .. .. .	..	530	..	..	..	530
Bundaberg .. .. .	1,441	1,505	399*	..	1,840	1,505
Clermont .. .. .	4,320	5,601	..	..	4,320	5,601
Dalby .. .. .	404	862	8,875	1,586	9,279	2,448
Fraser Island .. .. .	..	754	..	..	..	754
Gympie .. .. .	1,700	2,045	..	..	1,700	2,045
Inglewood .. .. .	84	..	1,080	753	1,164	753
Kileoy .. .. .	280	1,744	..	..	280	1,744
Kilkivan .. .. .	2,300	1,200	..	..	2,500	1,200
Maoy Peaks .. .. .	1,680	..	..	..	1,680	..
Maryborough .. .. .	8,413	8,155	..	..	8,413	8,155
North Coast .. .. .	685	1,097	..	..	685	1,097
Warwick .. .. .	3,100	2,306	..	..	3,100	2,306
Totals .. .. .	26,678	27,484	10,354	2,339	37,032	29,823

\* Hoop Pine.

Total is approximately 4,000 acres less than that treated last year.

#### SILVICULTURAL RESEARCH.

During the year the silvicultural research work was continued and extended on all major forest types.

The necessary discussion and summarising of all experimental work on hoop pine preliminary to a revision of the silvicultural technique for this species was carried out. Comprehensive revised instructions will be issued during the forthcoming year.

Thinning experiments in all species continue to give interesting results. The "free-growing curve" experiments in *Pinus taeda* now have a stocking of only 80 per acre on the most heavily thinned plots. This wide spacing has been reached in seven years, and indicates that early and extremely heavy thinning will be necessary in stands established at 7 feet by 7 feet.

On hoop pine sites the serious weed competition that prevails masks the response to thinning to some extent. Experiments have been initiated with the object of determining the

type of scrub regrowth least harmful as an understory and most effective in control of serious weeds, and the best means of encouraging such regrowth.

Results from experiments in hardwood and cypress pine stands continue to support routine procedures that have been in application for some years.

In hardwood areas the necessity for second treatment is becoming more and more apparent, and experiments indicate that this second treatment should follow within two years of the first, particularly in the drier types.

Pruning experiments have yielded results supporting earlier conclusions, but some doubts have been cast on the profitability of carrying pruning as high as 20 feet, which is the present routine procedure. This is being further investigated.

Following the failure of attempts to strike cuttings of specially select trees of *Pinus caribaea* and *Pinus taeda*, grafting on large nursery stock was resorted to, with reasonable success, and the first of the field plots of such stock has now been established. In addition, several particularly good types of trees have been self-pollinated.

Work on hoop pine cuttings demonstrates clearly that no leader can be secured from any cutting taken from a branch, and, consequently, the idea of raising stock of selected stems from cuttings has been abandoned.

#### PROTECTION.

A decrease in total allotment and the high cost of fire-fighting were responsible for a drop in the firebreak work carried out. After essential maintenance on over 1,800 miles of existing breaks, it was possible to add over 200 miles of new breaks to the protection system and carry out improvement work on hundreds of miles of existing breaks.

The total firebreak work carried out was as follows:—

Western Hardwood and Cypress Pine Forests—	Miles.
<i>Firebreak construction—</i>	
Grubbing, falling, and stacking .. .. .	63.0
Burning .. .. .	32.5
Grub roads along edge .. .. .	167.2
Grade roads .. .. .	280.5
Green breaks .. .. .	453.3
Auxiliary roads .. .. .	15.9
<i>Firebreak maintenance—</i>	
Suckering and burning .. .. .	664.6
Ploughing .. .. .	15.9
Chipping .. .. .	9.2
Road maintenance (including regrading) .. .. .	220.3
Plantation Areas—	
<i>Firebreak construction—</i>	
Temporary break for scrub burns .. .. .	22.8
Clearing breaks .. .. .	15.7
<i>Firebreak maintenance—</i>	
Chip, plough, and/or grade .. .. .	162.1
Coastal Hardwood Forests—	
<i>Firebreak construction—</i>	
Falling dangerous trees .. .. .	116.0
Stacking .. .. .	112.5
Burning .. .. .	135.4
Chipping side lines .. .. .	40.2
Clear and grub roads .. .. .	18.6
Road-grading .. .. .	33.5
<i>Firebreak maintenance—</i>	
Chip and/or plough side lines .. .. .	971.6
Burning .. .. .	831.6
Grading roads .. .. .	79.5

In addition, 25.3 miles of fencing were erected for plantation protection.

The erection of four new fire towers was put in hand, two of these with heights exceeding 70 feet, and the tallest yet built here.

In addition, a further 85½ miles of 'phone lines were built linking observation points and headquarters.

#### CONSTRUCTIONAL WORK.

In addition to the protection improvements and two nurseries as above, the following were constructed:—

Tool sheds .. .. .	6	Wells .. .. .	4
Fire huts .. .. .	14	Bunkhuts .. .. .	2
Garages .. .. .	2	Field sheds .. .. .	8
Offices .. .. .	1		

Road work to the Tin Can Bay area was continued, some 30 miles of road being constructed, together with bridges of 100 feet and 27 feet over the Noosa and Little Noosa Rivers, respectively.

Maintenance of existing improvements was carried out as necessary.

## EXPENDITURE AND LABOUR.

Total expenditure for the year on reforestation works was £243,820—a decrease of £32,857 on last year's total.

Details under major headings are:—

Plantations .. .. .	£ 57,600
Natural regeneration .. .. .	18,596
Nurseries .. .. .	9,016
Research .. .. .	3,187
Protection .. .. .	69,558
Capital improvements .. .. .	13,400
Surveys .. .. .	2,455
Wet time, holidays, sick and recreation leave	29,588
Tools, fodder, cartage, supervision, &c. .. .	31,511
Workers' compensation .. .. .	5,023
Miscellaneous .. .. .	3,886
	£243,820

In addition, an amount of £11,080 was expended on salaries of officers engaged in reforestation works.

Work was provided for 870 men on a full-time basis.

The number of employees' on reforestation work at the close of the year totalled 1,020.

## ANALYSIS OF FIRE REPORTS.

The following is a summary of 261 fire reports received from District Forest Officers during the year 1940-41.

*Magnitude of Fires.*

½ Acre or less.	½ Acre to 10 Acres.	Over 10 Acres and Under 100 Acres.	100 Acres and Over.
13	55	93	100

*Point of Origin.*

On Forest Reserves.	On Private Lands.	On Other Areas.
145	96	20

*Causes.*

Lightning.	Camp Fires.	Smokers	Grass and Debris burning.	Deliberate Burning.	Railways.	Misc.	Unknown.
10	4	6	48	31	4	28	130

It was necessary to prosecute in seven cases, and in a number of others warnings were issued.

The policy, generally, is to seek co-operation wherever possible.

## FOREST SURVEYS.

Nine fully equipped camps operated during the financial year, whilst smaller camps were organised to carry out required miscellaneous surveys.

The total expenditure for survey and assessment work was £10,120 4s. 2d.—made up with £2,374 7s. 4d. S.E.F. vote and £7,745 16s. 10d. H. and M. vote.

As a result, 70,147 acres were closely inspected; 597,818 acres were assessed; 228,583 acres were subjected to either type or soil survey, whilst a considerable area has been covered by compartment or firebreak survey.

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

Compass and chain .. .. .	Miles. 536	Chains. 9
Strip survey .. .. .	4,015	64
Scrub egde, trial traverse, &c. .. .	235	70

In the Atherton working plan area two camps operated, one completing Class 2 survey of National Park 226 and vacant Crown land, Bellenden Ker, and the adjoining part of State Forest Reserve 310, Gadgarra, and then proceeded with Class 2 survey of vacant Crown land in the parishes of Russell and Gladly. The second camp's operations were devoted to the assessment of areas in the parishes of Japoon, Gladly, Palmerston, Rockingham, Johnstone, and Hull; Class 2 survey of vacant Crown land in the parish of Hull; and a feature and assessment survey of hoop pine scrubs on the Stone River, in the Ingham district.

In the Many Peaks working plan area, scrub firebreaks were run and marked on part of State Forest Reserve 67, Bulburin, the camp then proceeding to the Gympie working

plan area, where a type, feature, and firebreak survey of a section of State Forest Reserve 451, Cooloolah and Womaiah, was commenced.

In the Roekhampton working plan area, assessment survey on State Forest Reserve 60, Rundle, was completed, and camp transferred to Biloela. Class 2 work was effected on Timber Reserve 170, Spier and Thalberg; portion 92, Spier; and part of portion 18, Annandale. Class 2 surveys were made of Goovigen Holding (now State Forest Reserve 54, Greycliffe), State Forest Reserve 64, Camboon, and Knockbreak Holding (Calrossie section), and portion 2, Calrossie (Cracow district).

In the Clermont district, Class 2 survey was completed on State Forest Reserves 1, 5, and 127, Clyde, Moorlands, and Mielere, and surveys effected of Reserve 6 and portions 2, 3, and 5, Redrock; Monteagle Holding and Malvern Downs and Talagai Holdings (Capella district).

At 30th June, 1941, inspection and Class 2 survey of grazing farms and Crown land in the parishes of Kettle, Burn, and Lapoule (Anakie district) were in progress.

In the Dalby working plan area, forest inventory surveys on State Forest Reserves 154, Vignoles and Brigalow, and 150, Dummore, were continued. Inventory survey on State Forest Reserve 16, Malcolm (Chinchilla), commenced in January and was still proceeding at the end of the report period.

In the Inglewood working plan area, type surveys were carried out by resident staff on the following reserves:—R. 119, Tandan, R. 117, Bracker (incomplete), R. 81, Beebo (incomplete), whilst Class 2 surveys were completed on Timber Reserve 127, Kerimilla, and surveyed portions in the parishes of Bendidee and Moogoon.

Approximately 57,400 acres were closely inspected in the parishes of Umbercolle, Winton, and Goodar, and about 34 miles of firebreak run on Reserves 79, 122, 81, and 119.

## NATIONAL PARKS.

Work on the National Parks was somewhat reduced during the year, but steady progress was maintained on the construction of graded walking tracks, of which over 16 miles were built. Direction signs, camp ground improvements, track maintenance, noxious plant eradication, and road improvement were other works undertaken. A series of lectures was given by National Parks officers during the year, and attention is being given to flora and bird identifications on Lamington Park.

The National Parks included in the improvement programme are Lamington, Springbrook (Warrie and Gwongorella), Cunningham's Gap, Tamborine (Joalah, McDonald, Palm Grove, and Witches' Falls), Bunya Mountains, Lakes Barrine and Eacham, The Crater, and Green Island.

Expenditure was £8,050, this including patrol and supervision costs. In all £46,955 has been expended on National Parks development and protection since inception of the work.

## HARVESTING AND MARKETING.

## GENERAL.

Owing to the reduction of softwood imports, brought about by war conditions, the demand for hoop and bunya pine was greater than ever, and the quantity sold by the Department was the highest ever recorded, being 8,127,000 super. feet more than the previous record in 1939-40. Many scrubwoods suitable for case-making, but previously unsaleable, found a ready sale, but the quantity logged was limited by the increasing shortage of bush workers such as fallers and the insufficiency of railway wagons. On account of the latter cause, logging of pine had to be curtailed in several districts when weather conditions were favourable. Weather conditions during the last six months of the financial year under review were not very favourable for logging. In spite of this, record quantities of practically all classes were marketed.

The total Crown mill log cut and gross and nett revenues were the highest recorded. Figures for the year and the previous highest figures (recorded in 1939-40) are:—

	1940-41.	1939-40.
Crown mill log cut .. .. .	Super. feet. 227,803,725	Super. feet. 212,449,000
	£	£
Nett revenue .. .. .	£465,871	£397,652
Gross receipts .. .. .	£955,915	£888,360

The total quantity of logs from private and Crown lands cut by Queensland sawmills and ply mills for the last three years is as follows:—

	1938-39.	1939-40.	1940-41 Estimated.
Hoop and bunya pine ..	129,250,313	149,596,000	155,000,000
Kauri pine .. .. .	11,118,981	12,635,000	10,000,000
Cypress pine .. .. .	14,416,590	15,645,000	15,000,000
Hardwood .. .. .	100,213,304	101,689,000	96,000,000
Cabinetwoods .. .. .	18,674,185	22,295,000	26,000,000
Secondary timbers ..	11,707,571	15,035,000	23,000,000
Imported timbers ..	285,380,953	316,895,000	325,000,000
Hardwood sawn into sleepers .. .. .	2,500,842	1,316,000	2,000,000
	10,541,851	11,517,000	7,000,000
	298,423,646	329,728,000	334,000,000

The quantity of pine plywood (and competitive lines) sold through the Plywood and Veneer Board during the twelve months under review was as follows:—

Sold in—	South Queensland.		North Queensland.	
	Square feet 3/16 inch basis.	Value.	Square feet 3/16 inch basis.	Value.
Queensland .. .. .	£ 7,531,000	£ 60,256	£ 972,000	£ 7,768
Interstate .. .. .	41,309,000	330,472	9,625,000	77,000
Overseas .. .. .	6,555,000	52,432	12,070,000	96,552
	£55,396,000	£443,160	£22,667,000	£181,320

The total production of veneer and plywood produced, including the output of mills in Northern Queensland, was:—

Logs treated—34,440,428 super. feet, producing 108,104,352 square feet of plywood 3/16 inch basis, and 30,793,326 square feet of veneers of 1/16 inch basis.

The quantity of hoop and bunya pine ply logs supplied by the Department's logging contractors during 1940-41 was 10,394,179 super. feet.

The quantity of hardwood marketed during the year was the highest recorded, being 33,846,972 super. feet, the previous highest being 32,980,000 super. feet in 1939-40.

The quantity of cypress pine logs sold was slightly less than for the previous financial year, the figures being 5,628,000 super. feet, as against 5,989,000 super. feet.

Owing to continued war conditions in the Far East, no further stocks of sandalwood were secured during the year. Stock on hand of approximately 70 tons was shipped during the first six months.

*North Queensland Timbers.*—The District Forester for North Queensland reports that the first six months of the financial year were ideal for logging, and full advantage was taken in accumulating stocks prior to the wet season. The latter half of the year under review ranked as one of the wettest and longest wet seasons on record. Fortunately, 75 per cent. of the Department's logging is over roads constructed by the Public Estates Improvement Branch and Main Roads Commission, which weather conditions did not unduly affect.

The quantity of Crown logs marketed under sales at stump and sales on truck was 39,793,664 super. feet, which is the highest yet recorded for North Queensland.

The following table shows the quantities of various species cut for the past two years:—

Species.	1939-40.	1940-41.
	Super feet.	Super feet.
Kauri Pine .. .. .	12,283,554	9,583,865
Maple .. .. .	4,383,955	5,320,576
Walnut .. .. .	2,534,262	1,864,076
Silky Oak .. .. .	8,625,523	11,966,058
Hickory .. .. .	898,318	1,018,671
Other cabinet woods (including Cedar) ..	1,970,207	2,292,730
Scrubwoods .. .. .	3,552,472	7,015,376

*Constructional Timbers (round and squared).*—Operations on constructional timbers under Departmental contracts were well maintained, and cutters were provided with constant employment throughout the whole period. Due to incessant wet weather in the first few months of 1941, deliveries were erratic and at times caused anxiety for the urgent fulfilment of orders required for the completion of defence works. However, the co-operation of suppliers and district officers resulted in very little delay occurring.

The beginning of the period witnessed the completion of the Falmouth order, the despatch to England of portion of which had been held up due to shortage of shipping space. Orders for Local Authorities, the Main Roads Commission, and Harbour Boards were supplied, as well as the usual large supply of hewn timbers to the Railway Department.

In common with other undertakings, a shortage of good cutters is being experienced, due to the thinning of cutters' ranks by enlistment in the overseas forces and compulsory military training. Such a shortage, although not at present marked, may cause some depletion of supplies in the coming year.

A comparison of major supplies cut under Departmental contracts with the two previous years is as follows:—

Specification.	1938-39.	1939-40.	1940-41.
Sleepers .. .. .	200,416	224,048	293,251
Crossings .. .. .	212,525	77,070	275,855
Transoms .. .. .	300,296	170,191	283,122
Bridge Timbers ..	42,808	113,647	38,909

During the period under review there were 399 men employed under Forestry orders for hewn and round timbers, and the majority of these were in constant employment.

In Appendix A is shown the total quantity of constructional timbers sold by this Department both at stump and from operations of Departmental contractors for the year.

*Logging.*—Conditions arising out of the war caused logging contractors some difficulty in finding experienced tree-fallers, resulting in some lost time.

The rationing of liquid fuel since the introduction of this measure in August, 1940, was put into operation with a minimum of inconvenience to contractors. By arrangement with the Liquid Fuel Control Board, this Department received petrol ration tickets from the Board for issue to contractors through the district forest officers, who carefully supervised the issue to meet contractors' requirements without waste. Any difficulties were overcome by the considerate attitude of the Fuel Board, so that there was a minimum of interference with logging activities.

Employees of contractors took preliminary action to secure an award covering bush workers. A claim was to be filed by the Australian Workers' Union, which was to be heard in the coming year.

Trial of a system of separate payment of fallers employed by contractors had to be abandoned owing to difficulties of administration.

The quantities hauled and payments to logging contractors are as follows:—

	Super. feet.	Amount paid.
In Southern Queensland—		
Hoop and Bunya Pine .. .. .	99,333,515	£ 256,473
Other Timbers .. .. .	1,856,444	
In Northern Queensland—		
Kauri Pine .. .. .	5,600,058	£ 89,203
Other Timbers .. .. .	18,713,897	
Total .. .. .	125,503,914	£345,681

*Roads.*—The expenditure on logging roads, both in new construction to make accessible further areas and in the maintenance of existing roads, amounted to £42,237 16s. 3d., made up as follows:—

	£	s.	d.
Harvesting and Marketing Fund ..	23,904	1	11
Special Employment Works Fund ..	18,333	14	4
	£42,237	16	3

The above amount excludes expenditure by Public Estates Improvements Branch from the funds of that branch on Forestry road construction, which amounted to approximately £62,000.

#### SAWMILL LICENSES.

As at 30th June, 1941, 555 sawmill licenses were current—479 general, 49 resaw, and 27 with other restrictions; 9 new licenses were issued during year, being 4 general, 3 resaw, and 2 restricted; 98 exemptions were in force at 30th June, 1941, 31 new exemptions being issued during the year, and 25 lapsed; 3 mills were dismantled and the licenses lapsed, and in ten cases amalgamations of licenses were effected.

## OFFENCES.

During the year ended 30th June, 1941, 170 cases of offences against Acts and Regulations administered by the Department were reported. Proceedings were instituted in 46 of these cases, and fines totalling £193 9s. imposed, whilst a number of prosecutions are pending.

In all cases revenue to the extent of £543 was recovered.

## FOREST PRODUCTS—INVESTIGATIONS .

Much of the normal work of this section, such as seasoning, preservation, starch depletion, and marine borer investigations, has been postponed because of diversions of staff to other work, and more urgent problems to be handled.

The Senior Assistant was appointed Liaison Officer—Timber Control, thus seriously restricting utilisation activities. The work of this officer has been almost entirely devoted to matters relating to timber supply on behalf of the Commonwealth Government.

Utilisation studies have been continued, and much advice has been given regarding the utilisation of many substitute species and the varied uses to which specified species can be applied. In view of the demand for hoop pine for many special purposes, increased interest has been evinced in many secondary species.

Producer gas and charcoal problems constituted the major part of the work of the section. Experimental burns were carried out with various species and various types of kilns. Charcoal required for use in Departmental producer gas units was produced, whilst additional quantities were sold to the public.

The Department's policy is to encourage the production of charcoal by private individuals rather than to undertake the production of requirements by the general public. During the year much advice and assistance in this direction has been given to private burners by the Department.

A number of Departmental vehicles have been fitted with producer gas units, and records of performances are being maintained.

The Department is represented on the Queensland Government Producer Gas Committee and the Producer Gas Technical Committee. Two officers of the Sub-Department have been made available for full-time work on producer gas in technical and secretarial capacities respectively.

Results of the Sub-Department's work on charcoal have been issued in bulletins by the Queensland Government Producer Gas Committee.

The success of the Queensland Forest Service vented pit method of burning charcoal has been amply demonstrated by its adoption in a number of commercial enterprises.

## CONCLUSION.

I regret to have to record the death during the year of Messrs. G. A. Duffy and F. R. Matyear.

Mr. Duffy, with his lifetime experience of the timber industry, did invaluable work as chairman of the Timber Advisory Committee, and his passing means a serious loss both to the Department and the industry.

Mr. Matyear, as Officer in Charge of Showrooms, rendered long, faithful, and valuable service with the Department.

Mr. L. A. Arnold, whose twenty-six years' service with the Department was marked by untiring zeal and the attainment of a great knowledge of the northern forests and timbers, retired during the year. We wish him many years of happiness.

Several officers and employees of the Department have answered the call to duty in the world struggle now proceeding.

As at 26th September, 1941, 14 officers of the permanent staff had enlisted for active service, whilst in the wages staff the number had reached 133.

We wish them well and look forward to their safe and victorious return.

I would also like to record the loyal and efficient service of the staff during a strenuous year.

I have, &c.,

V. GRENNING,  
Director of Forests.

## APPENDIX A.

## RETURN OF TIMBER, ETC., REMOVED FROM CROWN LANDS FOR THE YEAR ENDED 30TH JUNE, 1941.

Milling Timbers—		
Hoop and Bunya Pine Ply .. .. .	10,394,179	superficial feet
Hoop and Bunya Pine Logs .. .. .	73,986,621	superficial feet
Hoop and Bunya Pine Tops .. .. .	61,675,522	superficial feet
Kauri Pine .. .. .	9,584,273	superficial feet
Cabinet Woods .. .. .	25,306,577	superficial feet
Scrubwoods .. .. .	7,381,545	superficial feet
Hardwoods .. .. .	33,846,972	superficial feet
Cypress Pine .. .. .	5,628,036	superficial feet
	227,803,725	superficial feet
Other Classes—		
Sleepers .. .. .	299,388	pieces
Sleeper Blocks .. .. .	166,815	pieces
Headstocks, Transoms, and Crossings .. .. .	751,734	superficial feet
Girders, Corbels, Piles, and Sills .. .. .	181,164	lineal feet
Poles .. .. .	181,320	lineal feet
House Blocks .. .. .	157,144	lineal feet
Fencing Material .. .. .	108,700	pieces
Fencing Material .. .. .	78,653	lineal feet
Hewn and Bridge Timbers .. .. .	96,073	superficial feet
Hewn and Bridge Timbers .. .. .	21,506	lineal feet
Mining Timbers .. .. .	423,610	lineal feet
Mining Timbers .. .. .	89,077	pieces
Fuel .. .. .	82,761	tons
Rosewood .. .. .	84	tons
Mangrove Bark .. .. .	13	tons
Sand .. .. .	2,806	cubic yards
Gravel .. .. .	3,642	cubic yards
Soil .. .. .	857	cubic yards
Stone .. .. .	366	cubic yards
Charcoal .. .. .	32,655	bags
Plants .. .. .	664	

## APPENDIX B.

## REVENUE COLLECTED UNDER THE STATE FORESTS AND TIMBER AND QUARRY REGULATIONS FOR THE YEAR ENDED 30TH JUNE, 1941.

Districts.	Total.		
	£	s.	d.
Group 1—South Queensland (Brisbane, Bundaberg, Gympie, Ipswich, Maryborough, Toowoomba, Warwick)	716,779	9	7
Group 2—Goondiwindi, Inglewood, St. George, Stanthorpe	1,649	2	7
Group 3—Dalby .. .. .	6,239	1	2
Group 4—Charleville, Cunnamulla, Roma .. .. .	558	14	2
Group 5—Barealdine, Blackall, Jundah, Longreach, Muttaburra, Stonehenge, Winton, Aramac .. .. .	364	8	3
Group 6—Clermont, Emerald, Springsure .. .. .	557	12	5
Group 7—Gayndah, Gladstone, Monto, Taroom, Theodore	462	5	3
Group 8—Rockhampton .. .. .	768	3	7
Group 9—Mackay .. .. .	2,526	10	6
Group 10—Bowen .. .. .	735	8	11
Group 11—Townsville .. .. .	1,791	16	10
Group 12—Charters Towers, Ravenswood .. .. .	1,006	10	2
Group 13—Hughenden .. .. .	142	12	10
Group 14—Cloncurry, Boulia, Kyuna, Mackinlay .. .. .	312	12	7
Group 15—North Queensland (Atherton, Herberton, Cooktown, Port Douglas, Cairns, Innisfail, Ingham)	215,301	14	1
Group 16—Burketown, Coen, Croydon, Georgetown, Normanton, Thursday Island .. .. .	47	3	11
Totals .. .. .	949,243	6	10
Sandalwood Sales .. .. .	1,870	0	0
Sales of Plants, Materials, &c. .. .. .	824	8	2
Rents and Grazing Dues .. .. .	4,389	10	5
State Sawmills .. .. .	86	15	3
	956,414	9	8
Less Treasury Refunds .. .. .	498	19	10
Total .. .. .	£955,915	9	10
Comparison with Totals for Previous Years—			
1937-38 .. .. .	1938-39 .. .. .	1939-40 .. .. .	
£835,311 .. .. .	£764,657 .. .. .	£888,359	0 0

## APPENDIX C.

## EXPENDITURE, YEAR ENDED 30TH JUNE, 1941.

Item.	From 1st July, 1940 to 30th June, 1941.			
	Revenue.	Loan.	Trust.	Total.
	£	£	£	£
Administrative Expenses—				
Salaries .. .. .	38,686	11,080	..	49,766
Extra Living Allowance .. .. .	816	..	..	816
Travelling and Incidentals .. .. .	4,744	..	..	4,744
Total—Administrative Expenses .. .. .	44,246	11,080	..	55,326
Reforestation .. .. .	175,144	68,676	..	243,820
National Parks .. .. .	8,050	..	..	8,050
Harvesting and Marketing Operations—				
Log Timber .. .. .	..	..	401,966	401,966
Hewn, Split, and Pole Timber .. .. .	..	..	65,518	65,518
Roads .. .. .	..	18,334	23,904	42,238
Total—Harvesting and Marketing .. .. .	..	18,334	491,388	509,722
Totals .. .. .	£227,440	£98,090	£491,388	£816,918

## APPENDIX D.

## ANALYSIS OF REFORESTATION EXPENDITURE.

Heading.	Expenditure 1940-41.	Expenditure 1st July, 1919, to 30th June, 1941.
	£	£
Plantations .. .. .	57,600	396,364
Regeneration Areas .. .. .	18,596	142,947
Nursery Working and Maintenance .. .. .	9,016	113,153
Forestry Experimental Work .. .. .	3,187	30,989
Construction of Nurseries, Buildings, &c. .. .. .	9,856	137,979
Maintenance Capital Improvement .. .. .	3,534	33,885
Forest Protection .. .. .	69,558	425,793
Supervision, Miscellaneous Stores, Fodder, &c. .. .. .	31,511	200,403
Wet Time, Holidays, Recreation Leave, Sick Leave .. .. .	29,588	157,351
Workers' Compensation and Unemployment Insurance .. .. .	6,121	38,050
Surveys .. .. .	2,455	54,473
Purchase of Land and Improvements .. .. .	10	12,483
Salaries .. .. .	11,080	59,604
Miscellaneous .. .. .	2,788	12,303
	£254,900	£1,815,777

## APPENDIX E.

## AREA OF PLANTATIONS ESTABLISHED AND NATURAL FORESTS TREATED.

Working Plan Area.	Plantations.				Natural Forests.			
	1940-41.		Totals to 30th June, 1941.		1940-41.		* Totals to 30th June, 1941.	
	Softwoods.	Other.	Softwoods.	Other.	Softwoods.	Other.	Softwoods.	Other.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
Brisbane .. .. .	1,007-0	14-0	9,134-2	486-5	..	3,756	..	9,747
Brisbane Valley and Nanango .. .. .	..	..	..	..	399	530	1,441	9,123
Bundaberg .. .. .	..	..	..	..	..	2,946	9,124	13,055
Clermont .. .. .	..	..	..	..	..	9,921	..	28,940
Dalby .. .. .	..	..	..	..	10,461	1,266	81,970	31,746
Fraser Island .. .. .	..	..	749-5	161-0	..	754	2,310	12,677
Gympie .. .. .	395-0	..	1,667-2	440-0	..	3,745	..	12,882
Inglewood .. .. .	..	..	..	..	1,833	84	63,387	24,380
Kilcoy .. .. .	299-0	..	722-7	145-0	..	2,024	..	3,290
Kilnivan .. .. .	328-5	17-5	1,623-7	51-4	..	3,700	905	15,391
Mackay .. .. .	..	..	30-5	..	..	..	..	..
Many Peaks .. .. .	285-0	..	786-6	..	..	1,680	..	2,291
Maryborough .. .. .	..	..	..	..	..	16,568	512	52,656
Mary Valley .. .. .	..	..	..	..	..	..	347	214
North Coast .. .. .	542-0	..	7,034-1	6-0	..	..	..	21,177
North Queensland .. .. .	240-6	12-0	3,025-8	596-5	..	1,782	..	2,215
Warwick .. .. .	89-9	26-8	923-4	566-4	..	..	..	6,722
Experimental Areas .. .. .	132-0	..	987-0	18-8	..	5,406	..	..
	..	..	87-3	13-7	..	..	..	..
Totals .. .. .	3,313-0	70-3	26,772-0	2,485-3	12,693	54,162	159,996	246,506
	Total Planted 1940-41, 3,383-3 acres.		Total Area Planted at 30th June, 1941, 29,257-3 acres.		Total Treated during 1940-41, 66,855 acres.		Total Treated at 30th June, 1941, 406,502 acres.	

\* Total of areas subjected to one treatment. Subsequent treatments not included in totals.

## APPENDIX F.

## ASSISTANCE TO LOCAL AUTHORITIES FOR THE CONSTRUCTION OF AND REPAIRS TO ROADS AND BRIDGES.

SUBSIDIES PAID DURING YEAR ENDING 30TH JUNE, 1941.

Shire Council.	Road.	Amount Paid.
		£ s. d.
Burrum	160/78 Old Gayndah Road—Burrum Shire Section	149 3 8
Caboolture	159/3 Kileo—Road serving R. 370, Parish of Durundur	47 15 3
Caboolture	160/128 Sellins Road to R. 893, Parish of Byron	17 0 0
Chinchilla	160/124 Road between Portions 16, Nudley and 19, Buchan (Work done by Forestry Department)	92 4 0
Crow's Nest	159/17 B.V.—Road through S.F.R. 257	25 0 0
Crow's Nest	160/49 Nukku—Crow's Nest Road	48 0 0
Crow's Nest	160/111 Golden Gully Road to S.F.R. 258	45 0 0
Degilbo	160/120 Degilbo Creek Road to R. 533, Mungore—Section R. 590 to Main Road	164 2 10
Degilbo	160/92 Mount Woowoonga Road	75 0 0
Degilbo	160/115 Deep Creek Road	30 0 0
Eacham	160 Eacham—Reconstruction of Short's Bridge—Battle Road	25 4 0
Esk	160/37 Mount Stanley Roads—Linville to R. 328-329, Avoca—Maintenance	430 17 4
Esk	160/37 Mount Stanley Roads—Construction—Extension of Western Branch	777 19 10
Hinchinbrook	160/120 Mount Fox Range Road	200 0 0
Kilkivan	159/1 Kilkivan—Grongah Road to S.F.R. 67	215 19 6
Kilkivan	160/31 Planted Creek Road to S.F.R. 67	185 17 7
Kilkivan	160/38 Manumbar-Kinbombi Road—Main Section	88 15 6
Kilkivan	160/38 Manumbar-Kinbombi Road—Duffer Creek Branch	95 12 0
Kilkivan	160/38 Manumbar-Kinbombi Road—Kabunga Branch	177 9 6
Kilkivan	160/38 Manumbar-Kinbombi Road—Tankalaman Branch	122 7 6
Kilkivan	160/39 Lower Planted Creek Road to R. 67	4 12 8
Kilkivan	160/40 Kilkivan-Blacksnake Road to R. 221	112 6 2
Kilkivan	160/41 Oakview—Sinai Road to R. 220	46 11 8
Kilkivan	160/42 Old Boonara Road to Cinnabar	1 15 1
Kilkivan	160/77 Calgoa-Boowoogum Road—Kilkivan Shire Section	9 2 1
Kilkivan	160/95 McKewen's Road	15 15 10
Kilcoy	160/87 Yabba Road to Portion 27v, Parish of Yabba	82 0 1
Kilcoy	160/107 Monsildale Road—Construction	209 6 6
Kilcoy	160/107 Monsildale Road—Improvements to Sidings	166 13 4
Kilcoy	160/107 Monsildale Road—Maintenance	53 6 8
Kilcoy	160/107 Monsildale Road—Special Maintenance	53 6 8
Kilcoy	160/118 Road from Winya to Kilcoy—Jimna Road	137 14 2
Kilcoy	159/4 Kilcoy—Road to and within S.F.R. 434, Conondale	247 7 0
Kolan	160/101 Braun's Road	33 13 7
Maroochy	160/83 Kamba Road	29 18 9
Nanango	160/34 Barker's Creek Road to S.F.R. 151, Tureen (Barker's Creek)	104 4 6
Nanango	160/82 Pimpinbudgee Creek Road to S.F.R. 151, Tureen	7 5 3
Nanango	160/93 East Nanango Road to S.F.R. 299, Parish of Avoca	18 0 10
Nanango	160/122 Tim Shea Creek Road from R. 544 to and within Tim Shea Logging Area, Parish of Tureen	180 6 2
Rosalie	160/26 Road from R. 257, Cooyar to Gilla	20 0 0
Rosalie	160/46 Road from R. 510, Cooyar to Portion 218v (Upper Cooyar Road)	140 0 0
Rosalie	160/47 Roads from part of R. 258, Cooyar to Cooyar (East Cooyar Roads)	159 0 0
Rosalie	160/48 Road from part of R. 258, Cooyar to Cooyar (Mount Binga Road)	125 0 0
Rosalie	160/49 Nukku-Crow's Nest Road—Section R. 257 to Nukku	78 10 0
Rosalie	160/96 Upper Yarraman-Maidenwell Road—Rosalie Shire Section	40 0 0
Rosalie	160/51 Yarraman-Tarong Road	75 9 2
Tiaro	160/117 Road from R. 50, Glenbar to Miva	85 0 0
Widgee	160 Widgee—Reconstruction of Culvert—Websters' Road to R. 628, Goombooriam	9 16 6
Widgee	160/117 Amamoor Creek Road	40 0 0

## APPENDIX F—continued.

Shire Council.	Road.	Amount Paid.
		£ s. d.
Woocoo	160/35 Yarrabine Road	24 8 10
Woocoo	160/77 Calgoa-Boowoogum Road—Woocoo Shire Section	43 7 6
Woocoo	160/78 Old Gayndah Road—Woocoo Shire Section	21 15 1
Woocoo	160/113 Cockatoo-Sandy Creek Road	100 12 4
Woocoo	160/114 Pine Mountain Road	52 17 7
Woothakata	160 Woothakata—Repairs to Bateup Creek Bridge—Mount Molloy-Port Douglas Road	18 12 0
Woothakata	160/57 Re-erection of Bridge over Rifle Creek—Mount Molloy-Port Douglas Road	30 0 0
(Main Roads Commission)	159/1 Kilcoy—Toll on Timber hauled over Kilcoy-Goomeri Road (Jimna-Kilcoy)	1,384 8 2
(Main Roads Commission)	160/58 Toll on timber hauled over McHugh Bridge—Innisfail-Millaa Millaa Road	78 12 8
(Main Roads Commission)	160/102 Toll on timber hauled over Pearamon-Boonje Road	21 0 7
	Total	£7,548 15 2

## APPENDIX G.

## FOREST RESERVATIONS.

1ST JULY, 1940 TO 30TH JUNE, 1941.				
State Forests.		No.	A.	R. P.
At 1st July, 1940	..	337	3,152,181	3 28
Proclaimed 1st July, 1940 to 30th June, 1941	..	19	113,197	3 14
		356	3,265,378	3 2
Timber Reserves.		No.	A.	R. P.
At 1st July, 1940	..	300	3,195,191	1 6
Cancelled	..	3	1,872	2 0
Converted into S.F.R.	..	4	45,972	0 0
Converted into National Parks	..	..	54,835	0 0
Areas selected	..	..	1,451	0 16
		7	104,130	2 16
Balance	..	293	3,091,060	2 30
New Reserves	..	11	62,633	1 22
Additions (plus V.C.L.)	..	..	350	0 0
Total at 30th June, 1941	..	304	3,154,044	0 12
National Parks.				
		No.	A.	R. P.
At 1st July, 1940	..	183	536,962	1 24
Proclaimed 1st July, 1940 to 30th June, 1941	..	10	134,616	0 0
Total at 30th June, 1941	..	193	671,578	1 24
Grand Total of Reservations at 30th June, 1941	..	..	7,091,001	0 38

## APPENDIX H.

## DISTRIBUTION OF PERSONNEL—SUB-DEPARTMENT OF FORESTRY.

	30th June, 1940.	30th June, 1941.
Salaried Officers	196	199
Other Employees	1,187	1,176
Total	1,383	1,375

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