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QUEENSLAND

# **ANNUAL REPORT**

OF THE

# **DEPARTMENT OF FORESTRY**

FOR THE

YEAR 1960-1961

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**PRESENTED TO PARLIAMENT BY COMMAND**

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## CONTENTS

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	PAGE
Introduction .. .. .	5
Reforestation .. .. .	5
Management .. .. .	5
Silviculture .. .. .	5
Silvicultural Research .. .. .	8
Protection .. .. .	8
Labour and Expenditure .. .. .	9
Plant .. .. .	9
Acquisition of Land .. .. .	10
Forest Surveys .. .. .	10
National Parks .. .. .	10
Sawmills Licensing .. .. .	11
Offences .. .. .	12
Harvesting and Marketing .. .. .	12
Forest Products Research .. .. .	14
Staff .. .. .	15

## TABLE OF APPENDICES

---

	PAGE
Appendix A.—Return of Timber, &c., removed from Crown Lands .. .. .	16
„ B.—Total Receipts, year ended 30th June, 1961 .. .. .	16
„ C.—Proceeds of Sale of Timber, &c., from 1st July, 1957, to 30th June, 1961 ..	16
„ D.—Constructional Timbers supplied under Forestry and Lumbering Operations .. .. .	17
„ E.—Comparative Statement of Expenditure for years 1959–60 and 1960–61 ..	17
„ F.—Area of Plantation Established, from 1st April, 1960, to 31st March, 1961	17
„ G.—Total area of effective Plantation, classified into Forestry Districts ..	18
„ H.—Areas of Natural Forest Treated .. .. .	18
„ I.—State Forests, Timber Reserves, National Parks and Scenic Areas at 30th June, 1961 .. .. .	19
„ J.—Reservations for the year ended 30th June, 1961 .. .. .	20
„ K.—Distribution of Personnel .. .. .	20



**FINE NATURAL FOREST OF CYPRESS PINE ON YULEBA STATE FOREST.**

Regeneration shown is typical of large areas of Cypress forests in South-West Queensland which have been protected from fire for 20 years or more.

40,849 acres of natural forest were afforded silvicultural treatment during the year of which 17,525 acres were Cypress Pine.

# REPORT OF THE CONSERVATOR OF FORESTS

For the Year ended 30th June, 1961

## INTRODUCTION

"The Forestry Act of 1959" which was assented to on 22nd December, 1959, and to which I made special reference in my annual report for the year 1959-60, was by Proclamation in the *Government Gazette* brought into operation during the current report year, as from 1st August, 1960.

This comprehensive Act should remain a Forestry code for Queensland for many years to come.

It is now working smoothly and in this connection I should like to record my appreciation of the assistance and co-operation extended by members of the Land Administration Commission and its officers and by the Under Secretary, Department of Mines.

During the past year the sawmilling and plymilling industries in Queensland were very seriously affected by the policy of the Federal Government in regard to credit restriction and lifting of import controls, in addition to drought conditions in much of the State. This was reflected in the sales of logs from Crown areas. An all time record log cut of 141,000,000 super. feet for the six months' period July-December, 1960, was followed by a cut of 78,000,000 super. feet for the next six months—the lowest recorded for this period since before the war. It is normal for the sales for the second half of the year to be well below those of the first half, but never before to this extent. In the case of the main class of timber, i.e. hardwood, the sales for January-June, 1961, were 30 per cent. below those for the same period last year.

I feel that it is necessary to mention again that State Forests are the only areas of Crown lands which are reserved for the production of timber in perpetuity. Only on State Forests can the Department make expenditure on forest management projects aimed at achieving the optimum sustained production of timber.

It is very disturbing to record that during recent years mill logs (excluding pine) have come from the following sources:—

State Forests .. .. .	26 per cent.
Other Crown Areas .. . . .	19 per cent.
Private Land .. . . .	55 per cent.

State Forests have produced only 28 per cent. of the hardwood cut, 20 per cent. of cypress pine and 24 per cent. of other species (excluding pine).

In years past a considerable part of the best forest land was alienated on the score of development. It is known that very little of this private forest land is being managed for the continued production of timber. Although the log production from these private lands is falling rapidly, nevertheless 60 per cent. of the hardwood and cypress pine logs cut in recent years in Queensland came from private land. This would indicate that these areas have not been fully developed for the land use for which they were alienated.

If this State is concerned about our future timber needs, then considerable areas of Crown lands carrying cypress pine, hardwood and other species should be permanently reserved as State Forests at an early date.

This Department is concerned at the possibility of large scale destruction of young and advanced growth of cypress pine and hardwood species on leasehold land which is now in process of conversion to freehold. The Government has some control over the treatment of this timber whilst the land is under lease, but once the land is freehold the Government has no control over the growing timber.

All mill logs which will be cut in the next 60 years in natural forests are already growing as small saplings or advanced poles. The destruction of this young timber can have serious effects on the future supplies of the sawmilling industry.

## REFORESTATION

### Management

*General.*—The extent of reforestation operations in the following pages shows an appreciable increase on the previous year's work. This was due partly to increased employment to assist in relieving the seasonal unemployment position and also to a relatively easy fire season that allowed concentration on reproductive work.

The selection of forestry works, particularly reforestation, as an avenue for employment, which provides the maximum direct employment for minimum expenditure, is fully justified by the high proportion of expenditure in direct wages. For 1960-61 the figure was almost 80 per cent.

Although new plantings were a little below last year's, the area of natural forest given a silvicultural treatment (40,800 acres) was the highest for many years. There is a vast amount of such work remaining to be done.

The total expenditure of over £1,712,000 on reforestation works was the highest to date and exceeded that of 1959-60 by £182,000.

Details of the silvicultural work performed are given below. They illustrate not only the extent for the year but also the appreciable amount of work that follows the original establishment of a plantation. For example, the area of new plantation established was 4,533 acres but work on older areas included 20,400 acres of pruning, tending of 77,000 acres and unmerchantable thinning of 8,500 acres. Unless new work is to be sacrificed, the need for increasing appropriations is clear.

Inventory survey work continued at a rate which, though not satisfactory, was good in view of the large amount of work necessary involving timber stands on grazing selections applied for to be freeholded. It is gratifying to be able to report that of 306 applications to hand covering 816,000 acres only 134 (360,000 acres) remained to be dealt with in the field at 30th June, 1961.

Inventory work carried out on the standard permanent plot basis on State Forests comprised:—

	Plot Establishment	Plot Remeasurement
	Acres	Acres
Plantations .. .. .	1,200 (73)	6,600 (652)
Cypress Pine .. .. .	66,300 (404)	160,300 (941)
Hardwood .. .. .	9,900 (110)	..

(Numbers of plots involved are shown in brackets.)

Additionally, 7,300 acres of coastal hardwoods were sampled by random plots.

Some 119,000 acres were also covered by strip assessment. This was chiefly on areas outside reservations but some stripping was done on State Forests in the Brisbane District to furnish urgently needed figures in the implementation of the modified hardwood log sales policy.

Specifications were prepared for the inventory of the North Queensland rain forests which it is hoped to inaugurate next year.

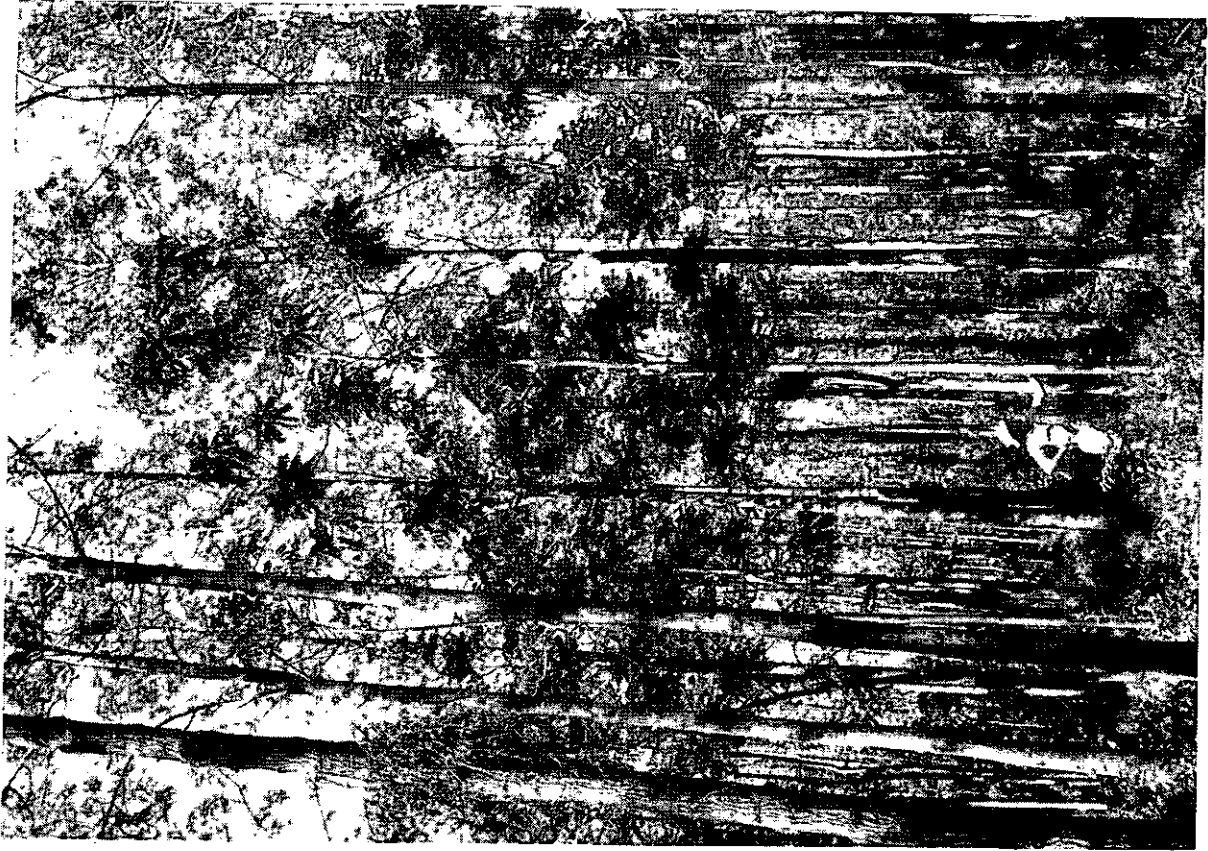
Further plantation thinning sales were made during the year, most of which were on a continuing basis, but some for fixed quantities to overcome a lag at some centres were also made.

At 30th June, 1961, sales on a continuing basis required the removal of 39,750,000 super. feet per year. Actual removals totalled 26,234,000 super. feet, bringing the total plantation removals to date to 216,204,000 super. feet with a stumpage value of approximately £720,000.

### Silviculture

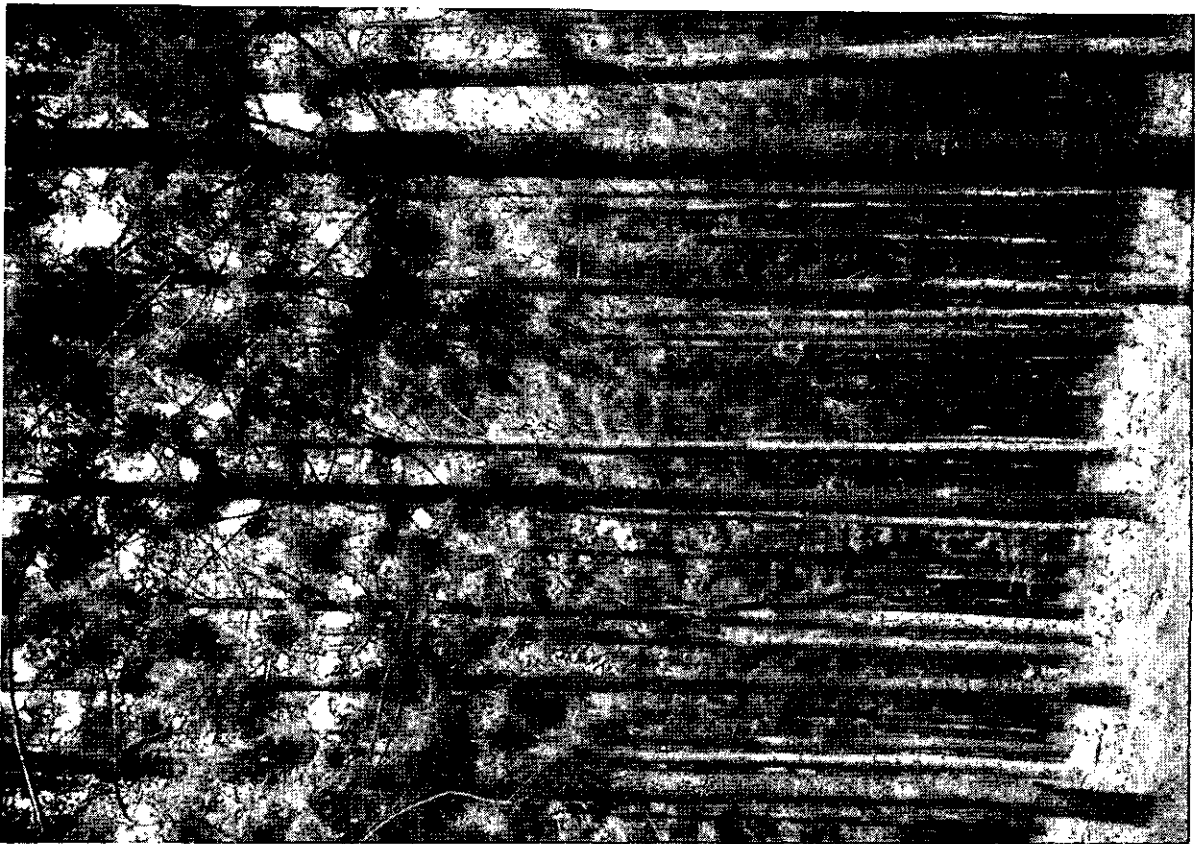
*General.*—Rainfall for the year at all centres was below average. The spring rains of 1960 were not good, whilst at most centres the summer rainy season was again below average—one exception being Bowenia where a fall of 1,144 points was recorded for the 24 hours ending 9 a.m. on the 18th February and a total of 36½ inches was recorded for the period January-March, 1961. Reasonable falls in the autumn at most exotic pine planting centres enabled an early start to be made with the winter planting. Some yearly totals compared with averages are as follows:—

Yarraman, 2,330 points—average 2,998 points.
Beerwah, 4,431 points—average 6,200 points.
Toolara, 4,271 points—average 5,400 points.
Pechey, 2,789 points—average 3,630 points.



**AN EXPERIMENTAL PLOT OF RED CEDAR.**

Seven years old and 33 feet high planted under Silky Oak (*Grevillea robusta*), and as yet not affected by twig borer.



**HOOP PINE PLANTATION AFTER SECOND MERCHANTABLE THINNING. AGE 34 YEARS.**

4,398 acres of softwood plantation were established during the year bringing the total to 94,266 acres of which 45,796 are Hoop Pine.

Generally, conditions were favourable for the burning of felled scrub areas and moderately favourable for the summer planting of Hoop Pine and the winter 1961 planting of exotic conifers.

Details of the year's work are as follows:—

	1959-60	1960-61
	Acres	Acres
Area of natural forest treated .. ..	26,803	40,849
Area of plantation established .. ..	4,860	4,533
Area covered in pruning .. ..	17,772	20,434
Area tended .. ..	70,707	81,511
Area thinned merchantably .. ..	4,152	4,430
Area thinned unmerchantably .. ..	8,904	8,565

There has been a substantial increase in the acreage of natural forest treated—largely the result of additional funds granted in the last three months of the financial year. The continued increase, associated with our annual planting programme, in the acreage of plantation tended and pruned, again indicates the need for increases in manpower and funds.

*Plantations.*—Appendix F shows by districts and species the areas planted from 1st April, 1960, to the 31st March, 1961. The area planted for the period is 4,533·4 acres made up as follows:—

	Acres
Native Conifers (chiefly Hoop Pine) .. ..	1,937·8
Exotic Conifers (chiefly <i>Pinus elliotii</i> , <i>caribaea</i> , <i>patula</i> and <i>radiata</i> ) .. ..	2,457·6
Broadleaved species .. ..	2·5
Eucalypts .. ..	135·5
	<hr/> 4,533·4

This year's planting brings the total acreage of effective plantations to 97,383 acres comprised of—

	Acres
Native Conifers .. ..	48,268·6
Exotic Conifers .. ..	44,576·1
Broadleaved species .. ..	1,421·1
Eucalypts .. ..	3,117·7
	<hr/> 97,383·5

Machines were again used to a large extent in clearing areas for planting—567 acres of rain forest and 1,118 acres of Eucalypt forest being so handled. Satisfactory contracts for the brushing and falling of the remainder of the areas were let and all areas were completed on time.

Burning conditions were favourable and bunking up costs after the burn were considerably below those of last year.

Planting conditions, both for the winter and summer plantings, were generally favourable and a small amount of refilling has been necessary in the winter 1960 plantings of exotics.

Operations were commenced on State Forest Reserve 658 Macartney and a total of approximately 120 acres was planted with *Pinus caribaea* in the summer months. This reserve is on the coastal plain about midway between Mackay and Proserpine. About 2,000 acres of plantable land are available for exotic pine planting and later it is hoped to extend operations by the commencement of a Hoop Pine planting programme on the scrub areas to the west of the Clarke Range. Access into the scrub areas has already been constructed.

Early tendings on the newly planted Hoop Pine areas were light but reasonable falls of rain in January and February resulted in a strong development of the weed crop with a resulting rise in tending costs.

A considerable amount of pruning was carried out and details are—

	1959-60	1960-61
	Acres	Acres
First operation .. ..	5,742	6,706
Second operation .. ..	5,694	6,600
Third operation .. ..	4,193	3,894
Fourth operation .. ..	2,143	3,234
	<hr/> 17,772	<hr/> 20,434

Removal of epicormic shoots was carried out over 697 acres and 370 acres on the Passchendaele State Forest were covered with combined first and second operations and combined second and third operations.

Unmerchantable thinning in young stands of Hoop Pine and exotic pine was carried out over 8,565 acres. Second stage thinning to 300 per acre in exotic pines has been suspended for the time being in all coastal exotic pine areas. The possibility of industries, requiring large quantities of small size material, being developed in South-East Queensland is the reason for the suspension.

Details of unmerchantable thinning by Districts are as follows:—

District	Exotic Pine	Hoop Pine	Eucalypts
	Acres	Acres	Acres
Brisbane .. ..	2,868·4	..	..
Gympie .. ..	955·9	896·6	83·0
Mackay .. ..	468·0	..	..
Maryborough .. ..	1,672·6	..	..
Monto .. ..	..	56·5	..
Murgon .. ..	..	595·0	..
North Queensland .. ..	..	15·0	..
Warwick .. ..	272·0	..	..
Yarraman .. ..	170·0	512·0	..
	<hr/> 6,406·9	<hr/> 2,075·1	<hr/> 83·0

Hoop Pine areas were generally free of rat damage but reports received at the close of the financial year indicate severe damage over limited areas in the Murgon District.

Towards the end of June a large number of dead and dying *Pinus patula* was noted in a 10 year old stand in the Passchendaele State Forest. The stand rapidly deteriorated over a period of 3-4 weeks and a detailed count indicates at least 6,000 trees are either dead or dying over an area of about 44 acres. The trouble has been investigated by a pathologist from the Department of Agriculture and Stock and it would appear that the trees, weakened by attack from a fungus which destroys the fine feeding roots, have succumbed to the dry conditions experienced from March to June. The trouble is still being investigated.

*Regeneration of Natural Forest.*—As for 1959-60 the provision of additional funds plus favourable weather conditions made possible the treatment of 40,849 acres of natural forest. Details are—

	1959-60	1960-61
	Acres	Acres
Eucalypt forest .. ..	13,321	21,761
Cypress Pine .. ..	12,122	17,525
Tropical Rain Forest .. ..	1,360	1,478
Natural Hoop Pine .. ..	..	85
	<hr/> 26,803	<hr/> 40,849

*Nurseries.*—At the commencement of the financial year 25 nurseries were carrying stock whilst at the close of the year 23 remained in production. One Hoop Pine nursery and one Eucalyptus nursery were closed down.

Of the 23 nurseries now in use Hoop Pine stock is produced by 14 nurseries, exotic pine planting stock by 8, whilst 1 at Rocklea is used for the production of stock for sale to the public.

Stock on hand at 30th June, 1961, totalled 5,511,000 plants whilst the number produced totalled 3,067,000 plants.

*Sales of Trees.*—Sales to the public and to other Government Departments totalled 239,440, made up as follows:—

By Species	By Type of Planting
<i>Pinus elliotii</i> .. ..	Forest Plots .. ..
<i>Pinus taeda</i> .. ..	Schools .. ..
<i>Pinus patula</i> .. ..	Government Depart-
<i>Pinus radiata</i> .. ..	ments .. ..
Hoop Pine .. ..	Departmental .. ..
Miscellaneous .. ..	Private Sales .. ..
	<hr/> 239,440
	<hr/> 239,440

Sales of miscellaneous species ex the Rocklea nursery totalled 30,642 of a cash value of £2,390 3s. 10d.

The value of all sales amounted to £5,113 15s. 6d.

## Silvicultural Research

*Staff.*—During the year the number of university trained foresters engaged full time on silvicultural work was increased by two and now stands at 15, distributed throughout the State as follows:—North Queensland (4), Mary Valley (1), Beerwah (6), Brisbane Valley (1), Dalby (1), Head Office (2).

The two new appointments were both to the Beerwah Research Station where assistants have been provided to the officer in charge of general research with the exotic pines and to the officer in charge of tree breeding.

*Field Work.*—(i.) *Hoop Pine (Araucaria Cunninghamii)*.—The main work in the Brisbane and Mary Valley centres has continued to be the maintenance and extension of experiments dealing with the thinning of this species. Drought conditions in the Brisbane Valley were responsible for very low increments, particularly in some of the older heavily stocked plots.

Health of Hoop and Kauri Pine planted under stands of Slash Pine on types that originally carried poor open forest continue to show healthy if slow growth and this work has been dealt with in Research Note No. 16 in course of publication.

Patch grafting of Hoop Pine was extended during the year with results as successful as those in the previous year which continue to make vigorous growth in the field. Research Note No. 10 dealing with this work is at present with the printer.

There was a heavy flowering in the Mary Valley in 1960 and the opportunity was taken to extend observations on the mechanism of pollination and to effect a number of crosses involving elite trees chosen for use in the establishment of a Tree Orchard.

(ii.) *Kauri Pine (Agathis robusta)*.—Thinning experiments were maintained and the tree breeding work extended along the same lines as with Hoop Pine. Research Note No. 10 also deals with the patch grafting of this species and initial observations on the flowering habits of the Southern Kauri have been prepared for publication.

(iii.) *Slash Pine (P. elliotii)*.—Thinning experiments were maintained and extended. Grafting of elite trees continued to complete the planting of the second seed orchard and to provide stock for Australian Paper Manufacturers to use in their orchard. Progeny tests with controlled pollinated stock were established on an area of 17 acres. Each progeny was represented by 4 plots of 49 trees planted at a 10 feet x 10 feet spacing to a randomised layout.

(iv.) *Caribbean Pine (P. caribaea)*.—Appointment of an assistant to the officer in charge of general experiments with the exotic species has enabled extension of this work to cover Caribbean and Monterey Pines. There are now four major thinning experiments with Caribbean Pine—two at Bowenia, two at Beerwah. One at each centre has a basal area control whilst the others are to numbers and are designed to yield information on early unmerchantable thinning with a species which makes extremely rapid growth and is characterised by poor stem form.

The search for elite trees has been continued and it is planned to review the candidates for inclusion in a seed orchard in time for action to be taken in establishment in 1963.

Assessment after 5 years in the field of provenance trials at Bowenia, Tuan (near Maryborough), Toolara (near Gympie) and Beerwah showed that, in general, form of all sources was better at Bowenia than in the southern localities and that the outstanding provenance in respect to stem form was a small planting of stock derived from seed supplied by Professor T. Perry from a collection on the Isle of Abaco (Bahamas). Action to obtain more seed from this locality is in hand.

Promising results continue to be obtained with field grafting of Caribbean Pine at Bowenia.

*F<sub>1</sub> Hybrids of Slash X Caribaea after 3 years from planting* continue to show vigour superior to that of either parent in two field trials. This hybrid could be of considerable value if its early promise is maintained.

(v.) *Monterey Pine (P. radiata)*.—Thinning experiments were initiated in the Passchendaele area to investigate the influence of standing basal area on increment and also the effects of early unmerchantable first thinnings to 300 and 400 stems per acre in an area located in an important fruit growing centre ensuring a demand for case thinnings which can be made at a relatively early age.

In the tree breeding line, work continues to be confined to the development of a diplodia-resistant strain and arrangements are in hand to conduct during the 1961 winter an assessment of the older progeny trials in the field at both Pechey and Passchendaele.

(vi.) *Cypress Pine (Callitris glauca)* and *Western Hardwoods*.—With these species the main work has been the maintenance of thinning experiments and the measurement of detailed yield plots.

Observations made in connection with the planting of shade and shelter trees in South-West Queensland have been summarised and are being issued as Research Note No. 16.

(vii.) *Rain Forest Species—North Queensland*.—Experimental work in the Rain Forests of North Queensland was concerned mainly with the maintenance of existing experiments but was extended along lines associated with the tending of established regeneration and the establishment of Hoop Pine on degraded grass-lands. Experiments involving the use of Caribbean Pine to control the grass and the subsequent underplanting of Hoop Pine have been initiated.

(viii.) *Coastal Hardwoods*.—Work here has continued on a restricted scale due to the continued absence of the officer in charge on a scholarship with C.S.I.R.O. It has been possible to maintain existing experiments on thinning and prescribed burning and to summarise results from this latter work for presentation as a paper to A.N.Z.A.A.S. This paper is being issued as Research Note No. 13.

(ix.) *Plant Nutrition*.—Work on the nutritional requirements of Loblolly (*P. taeda*) and Hoop Pine was continued in both plant house and in the field and results in so far as Loblolly is concerned have been written up and issued as Bulletin No. 16.

Evidence continues to accumulate on the importance of nitrogen to the healthy growth of Hoop Pine and there have been early responses to legume cover crops as well as to additions of Nitrogenous fertilizers.

*General.*—During the year the Soils Laboratory at Beerwah was completed and it is now fully equipped to play its part in the investigation of nutritional problems. It is planned during the coming year to examine the possibilities of foliar analysis as a guide to fertilizer requirements of Slash and Loblolly Pines.

Results from the experiments conducted in aerial spraying of Wattle and Eucalypt regrowth on plantation areas of Slash were included in a paper presented at the Second Australian Weeds Conference. This paper is being issued as Research Note No. 9.

## Protection

The year 1960-61 was considerably different from the "normal" as far as fire weather and fire occurrence were concerned.

Following the absence of the January-March wet season in 1960, the new fire year commenced with considerably lowered reserves of ground water. This factor was highlighted by the rapid drying off of the ground vegetation and debris and the continuation of the "early" fire season which developed in March-June, 1960.

A peak fire load of 58 fires was reached in September and only the intervention of rather unseasonal October, November and December rains prevented the recurrence of another 1951 or 1957.

A second wet season failure in early 1961 has, however, set the pattern for a repetition of last year with fires recorded in each month except April.

The heavy frosts of late May and early June have caused very rapid drying off of the considerable body of grass resulting from the October-November, 1960, rains and the south-east of the State is in an inflammable condition at the time of reporting.

Table "A" below illustrates the seasonal occurrence of fires during 1960-61, while Table "B" shows the Fire Causes.

TABLE "A"

\*MONTHLY FIRE OCCURRENCE (ALL FORESTRY DISTRICTS)

Month	Number of Fires	Percentage of Total
July .. .. .	11	5.2
August .. .. .	29	13.7
September .. .. .	58	27.2
October .. .. .	45	21.2
November .. .. .	36	17.0
December .. .. .	22	10.4
January .. .. .	2	0.9
February .. .. .	5	2.4
March .. .. .	1	0.5
April .. .. .	..	..
May .. .. .	1	0.5
June .. .. .	2	1.0
	212	100.0

\*Includes only fires attacked, on or menacing Forest Reserves.

TABLE "B"

CAUSES OF FIRES ATTACKED ON OR NEAR FOREST RESERVES

Cause	Number of Fires	Percentage of Total
(a) Burning off—with permit .. .. .	19	9.0
(b) Burning off—without permit .. .. .	69	32.5
(c) Smokers, Tourists, Travellers .. .. .	21	9.9
(d) Lightning .. .. .	3	1.4
(e) Trains, Railway Burning .. .. .	7	3.3
(f) Industrial operations—mills, logging .. .. .	2	0.9
(g) Cars, tractors, mechanical equipment .. .. .	2	0.9
(h) Restarts from previous fires .. .. .	39	18.5
(i) Miscellaneous known causes .. .. .	12	5.7
(j) Unknown .. .. .	38	17.9
	212	100.0

Burning off without first seeking a permit is again the major cause of fires menacing Forest Reservations, despite educational campaigns and attempts to enlist the help and interest of many of the grazing fraternity.

Many graziers co-operate in the matter of using controlled fire as a tool of pasture management, but those who rely on "farming with matches" jeopardise not only the future of the timber producing and catchment protecting forests but also their own living. Many pastures burnt during the hotter months of the year are reverting to the coarser types of native grasses which are of doubtful fodder value.

A disturbing feature of grazing fires is the number which "restart" at periods of up to eight weeks. This is due to a lack of the essential "patrol and black out" part of fire use.

Increased use has been made of prescribed burning in suitable hardwood types in three of the coastal Districts where an effort has been made to reduce hazard build-up by burning during the cooler or wetter months of the year. Observations are being made of the effects of this periodic controlled burning on various types. Total area so burnt for the year amounts to 26,378 acres.

It is noteworthy that previous prescribed burning was instrumental in limiting the spread of at least two large fires which built up on adjacent private property.

A further point of interest is that, of the 212 fires reported, 7 entered private property from State Forests while some 66 entered State Forests from the points of origin on adjacent private property.

TABLE "C"

AREAS BURNT BY FIRES REPORTED AND ATTACKED AS ON OR THREATENING FOREST RESERVES

Type of Land	Area Burnt Acres
Forest Reserves—	
Plantations—Coniferous .. .. .	9
High Quality Natural .. .. .	3,998
Low Quality Natural .. .. .	48,038
Waste Areas .. .. .	41,418
Total .. .. .	93,463
*Private Property—	
Adjacent to Reserves .. .. .	96,000*
Total Forest Reserves and Private Property .. .. .	190,000*

\*Considerable additional areas were burnt by other fires not recorded by this Department.

The Fire Weather Forecasts were again obtained regularly from the Bureau of Meteorology and have proved of use in planning the disposition of men.

The appointment of a Communications Officer has enabled the development of a plan for modernising and re-equipping the radio network. It is proposed to improve existing equipment and to replace it gradually with more modern units capable of operating satisfactorily in conditions of rough topography and of high atmospheric noise level.

The cost of firefighting, detection, patrol, observation and week-end detention of personnel was £72,583, while further sums of £136,134 and £99,332 were expended on the construction of fire lines and fire roads and on maintenance of the system, respectively.

These figures may be compared with the overall cost of £247,217 incurred during 1959-60. Rigorous efforts are being made to reduce costs of both construction and maintenance by trial and development of new methods and materials, several of which are currently under test in a number of localities.

#### Labour and Expenditure

Employment on reforestation works increased from 1,404 at the beginning of July, 1960, to 1,509 at the close of the year. Two hundred additional men had been employed between February and April, 1961. Average monthly employment throughout the year was 1,434.

There is still a surprising turn over of labour and about 60-70 men leave the job voluntarily each month.

Major headings of expenditure were:—

	£
Plantations .. .. .	400,721
Natural Regeneration .. .. .	74,426
Nursery Working Expenses .. .. .	42,771
Research .. .. .	43,034
Protection .. .. .	331,992
Surveys .. .. .	18,943
Capital Improvements .. .. .	80,220
Wet time, holidays and leave .. .. .	166,354
Tools, supervision, cartage of men, &c. .. .. .	341,502
Cartage of rations .. .. .	14,580
Camping allowance .. .. .	109,821
Pay Roll Tax .. .. .	31,964
Workers' Compensation .. .. .	34,930
Seed Collection and Storage .. .. .	3,183
Miscellaneous .. .. .	17,956
Total .. .. .	£1,712,397

Finance was provided from:—

	£
Loan Funds .. .. .	1,669,176
Trust Funds .. .. .	43,221

#### Plant

The usage rate of machines shows a slight increase over the year but they are still below optimum levels. It is hoped that by using improved control that these rates will show improvement.

The replacement programme was severely restricted due to lack of funds to such an extent that it was impossible to make any impression on the over age heavy equipment. Sixty-six vehicles were replaced, two small dozer/loaders and one medium heavy dozer. The dozer/loaders were allocated to the Dalby and Warwick Districts and the medium heavy dozer to the Mackay District.



Additional units purchased were:—

- 1 Five cubic yard truck for R. 658 in Mackay District.
- 1 Holden Utility for R. 779 Gregory in Maryborough District.
- 1 Holden Utility for Research at Imbil, Gympie District.
- 1 Short wheel based 4 x 4 Utility for F.I.S., Brisbane District.
- 4 Holden Utilities to replace private vehicles in Yarraman, Gympie, Brisbane and Dalby Districts.
- 8 Dozer blades for 60-h.p. tractors were purchased and fitted to tractors in Atherton, Mackay, Monto, Yarraman, Murgon, Gympie and 2 in Dalby District. (4 of these units were a carry over from 1959-60).
- 1 Heavy grader was purchased for the Atherton District.
- 2 Light-weight rock drills were purchased for the Atherton and Dalby Districts.
- 1 Small concrete mixer was purchased for the Atherton District Road Gang.
- 1 Disc harrow was purchased for firebreak work in Maryborough District.

The use of machines on firebreak work is being investigated and various methods are under observation. It is hoped to considerably reduce firebreak costs by using power graders and harrows.

There is still a power grader shortage in the Department and it will probably take a considerable time to rectify with existing fund allocations.

Three types of tree pusher bars are in service; they are being used in road and plantation clearing work. Results to date have been promising.

Considerable sums have been saved in reclaiming tractor walking equipment and tyres.

Repair costs have again been high due to over age equipment, lack of sufficient repair personnel and equipment.

Expenditure—

	£	s.	d.
Loan Purchase of Plant .. .. .	119,731	2	3
Trust Maintenance of Plant .. .. .	194,987	17	6

Receipts from hire of plant and vehicles was £250,957 8s. 4d.

Construction of a new 56-foot motor vessel for the Maryborough to Fraser Island service was commenced and delivery is expected early in the 1961-62 financial year. The able and capable assistance given by the Department of Harbours and Marine was greatly appreciated.

A census of plant as at 30th June, 1961, was—

Item	Disposals	Purchases	Balance 30th June, 1961
<b>Motor Vehicles—</b>			
Capacity—			
Sedans .. .. .		7	7
Under 1 ton .. .. .	31	38	187
1-2 tons .. .. .	3		1
2 tons .. .. .	25		82
3-4 tons .. .. .	1	18	32
5-6 tons .. .. .	1	7	22
Total .. .. .	61	70	331
<b>Tractors (D.B.H.P.)—</b>			
(a) Track Type—			
Up to 50 h.p. with blade .. .. .	1	1	12
50 h.p. without blade (8 fitted with blade) .. .. .		1	16
50-100 h.p. with blade .. .. .	2		23
Over 100 h.p. with blade .. .. .		1	6
(b) Wheel Type (End Loaders, Rotary Hoes, &c.) .. .. .			44
Total .. .. .	3	3	101
<b>Graders—</b>			
Drawn .. .. .	10		15
Powered to 40 h.p. .. .. .			9
40-80 h.p. .. .. .			6
80-100 h.p. .. .. .			6
100 h.p. up .. .. .		1	4
Total .. .. .	10	1	40

Item	Disposals	Purchases	Balance 30th June, 1961
Road Compressors .. .. .			12
Light Weight Rock Drill Compressors .. .. .		2	4
Rippers .. .. .			23
Rotary Hoes .. .. .	9		28
Fire Tanks—Slip on Type Units .. .. .			72
Fire Tanks—Various Types .. .. .			27
Water Tank Trailers—324 gallons .. .. .			40
Road Rollers .. .. .			6
Road Scoops .. .. .			18
End Loaders .. .. .			8
Terracers .. .. .			10
Chain Saws .. .. .		6	42

#### ACQUISITION OF LAND

During the year 1960-61 an amount of £2,847 13s. 7d. was expended on the acquisition of land for Forestry purposes as follows:—

	£	s.	d.
Purchase of land .. .. .	906	1	3
Compensation paid for resumptions .. .. .	1,196	1	10
Survey and Real Property Fees .. .. .	605	5	6
Compensation paid for improvements on a surrendered Grazing Homestead .. .. .	113	12	6
Miscellaneous .. .. .	26	12	6
	£2,847	13	7

The expenditure of £906 1s. 3d. represents the purchase of 3 properties comprising a total of 38 acres 2 roods 16 perches as additions to existing National Parks. An amount of £1,019 13s. 10d. was paid for resumption of an area totalling 21 acres 0 roods 27 perches for National Park purposes.

Two donations of land for National Park purposes were made during the year. Mr. R. W. Lahey, President of the National Parks Association, donated an area of about 40 acres of his property, portion 21v, parish of Kerry, for addition to Lamington National Park and Mr. E. O. Perry, of Bingil Bay, via El Arish, has donated an access strip to the Clump Mountain National Park from his property, subdivision 2 of resubdivision 2 of subdivision 1 of portion 159, parish of Hull.

The Department here places on record its appreciation of these generous gifts to the people of Queensland.

#### FOREST SURVEYS

Twenty-two camps operated during the year, details for each type of survey being as follows:—

##### General Surveys

Twelve camps, each consisting of two or three men, were engaged on general surveys covering mostly reforestation work.

Eleven of these camps carried out 622 miles of compass and chain traverse, comprising survey work associated with compartment, logging area and reserve boundaries, firebreaks, roads, species separation, soil and timber classification and road investigations.

The remaining camp was engaged on Theodolite Control Surveys. Fifty-six miles of traverse were run and a start was made on precision levelling for the establishment of bench marks at Forestry Offices.

Survey schools were held at Beerburrum, one in September, 1960, for Overseers and Leading Hands and one in October for Survey Trainees.

##### Timber Assessment Surveys

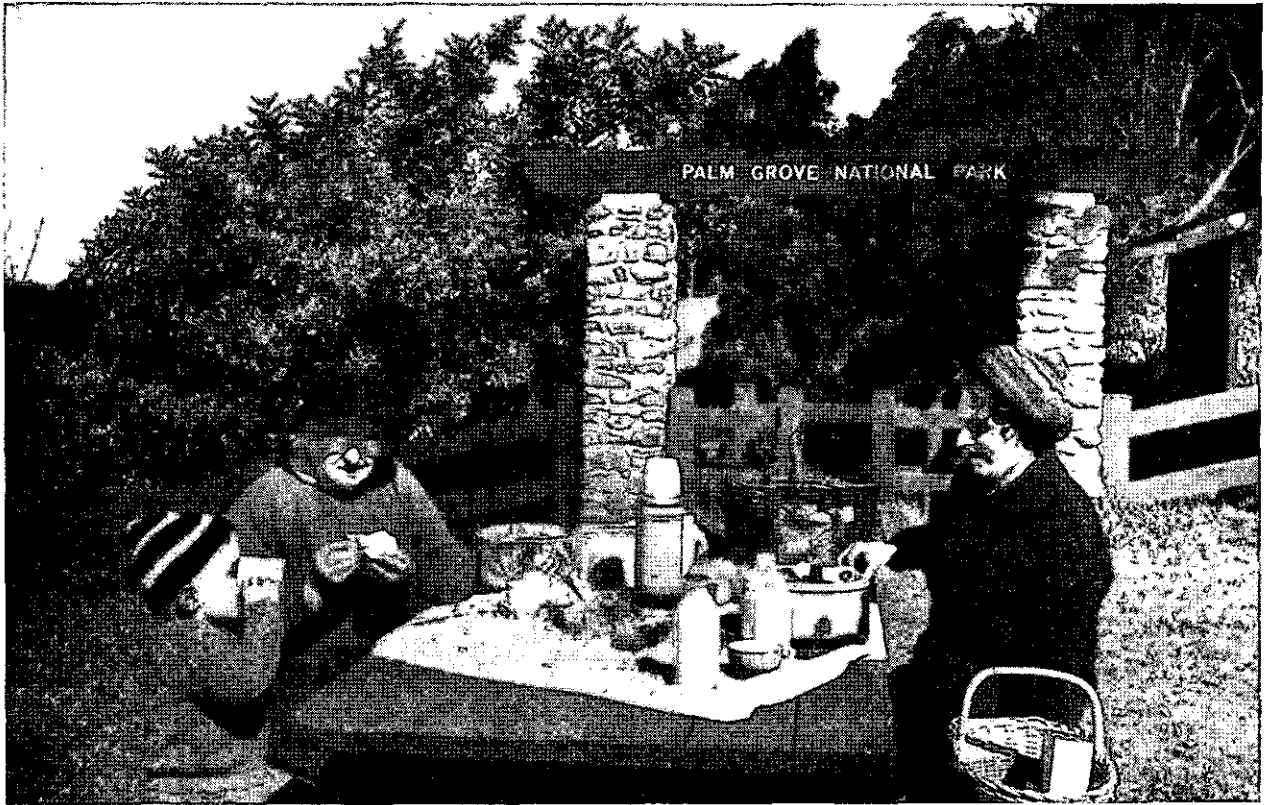
Ten camps were engaged on Forest Inventory, Assessment and Freeholding Surveys. These parties totalled 120 miles of compass and chain traverse for compartment boundaries, as apart from their assessment work.

#### NATIONAL PARKS

During the year three new areas were reserved as National Parks as follows:—

(a) National Park Reserve 331 in the parish of O'Connell over an area of 3,830 acres of rugged spectacular country from which excellent views are obtainable.

(b) National Park Reserve 914 in the parish of Walsh over 1,410 acres embracing wallum flats and marshes carrying wild flowers.



#### NATIONAL PARKS APPEAL TO ALL AGES.

Three generations enjoy lunch in the sun after a stroll through Palm Grove National Park, Tamborine Mountain.

(c) An area of 21 acres of rain forest at Tamborine Mountain, previously freehold, which was acquired and added to Joalah National Park.

A Scenic Area (National Park before the new Forestry Act), R. 673 in the parish of Tagigan; covering 106 acres was rescinded. This small area, which had been ravaged by fires, was not considered worthy of retention.

An area of 12 acres 2 roods 16 perches of National Park Reserve 836, parish of Trinity (Green Island), was released for tourist purposes.

In the new Forestry Act, areas of 1,000 acres or more are still known as National Parks, but areas of less than 1,000 acres are now referred to as Scenic Areas. Also provision was made in the Act for the amalgamation of contiguous National Parks and Scenic Areas. Under this provision 23 Scenic Areas were cancelled during the year and added to adjoining National Parks and two National Parks were amalgamated with the adjoining reservations.

The following table illustrates the present position as against that of 30th June, 1960, before the implementation of the new Act:—

	National Parks		Scenic Areas		Total Reservations	
	No.	Acres	No.	Acres	No.	Acres
30-6-1960	255	843,054	..	..	255	843,054
30-6-1961	60	813,694	171	34,502	231	848,196

An amount of £47,584 was expended on National Parks during the year 1960-61, an increase of £2,584 on the previous year. The total expenditure on National Parks to 30th June, 1961, was £650,047.

During the year a commencement was made with track construction on Brampton Island which is now completely circled by a track. Other Parks on which work was carried out are Lamington, Springbrook, Tamborine Mountains, Bunya Mountains, Burleigh Heads, Cunningham's Gap, Goonda, Killarney, Kondalilla, Mount Cougal. Mount

Edwards, Mount Glorious, Noosa, Numinbah, Ravensbourne, Eungella, Lakes Eacham and Barrine, the Crater, Tully Falls, Millstream Falls, Palmerston, South Molle, Hayman, Lindeman, Long, Dunk and Magnetic Islands.

Five hundred and sixty-eight chains of new track were constructed during the year, bringing the total length of constructed track to 257 miles 22 chains. A track was brushed through to the border National Park at Springbrook. From here a magnificent view is obtainable.

Apart from maintenance and improvement work on the existing tracks, other work carried out embraced shelter sheds, conveniences, picnic tables, fire places and signs. It is evident that the provision of toilets and other facilities at the entrance to track systems has resulted in a considerably increased number of persons making use of the tracks provided within the Parks. One of the most effective ways of educating the public to the worth of our Parks is by encouraging them to use the graded paths provided and thus make themselves familiar with these areas.

Some assistance was given to the Shire Councils in improving the road access to the Bunya Mountains National Park.

A job which had been postponed on several occasions was the provision of suitable accommodation for the men employed on the National Parks at Springbrook.

In South Queensland, the number of visitors to the National Parks and Scenic Areas was approximately 490,000 and in Central and North Queensland approximately 80,000.

#### SAWMILLS LICENSING

During the year there were 673 mills in active operation during the first quarter, 662 the succeeding quarter, and 642 in the third quarter. Figures are incomplete for the final quarter but it is likely that the downward trend has been continued.

The number of licenses current showed a further decrease as mills with insufficient supplies closed down and sleeper mills, unable to secure orders, ceased production.

Many mills operated part time only during the second half of the year.

The regular inspection of mills was continued through the year. With but few exceptions it was found that the requirements of the Sawmills Licensing Act were being observed.

The Sawmills Licensing Board, set up during the previous year, held regular meetings throughout the year for the consideration of all matters pertaining to Sawmills Licensing and submitted its recommendations to the Conservator of Forests.

The following table sets out the position with regard to Sawmill Licenses as at 30th June, 1961:—

Number of Licenses as at 30-6-60	Classification	New Licenses Issued	Changes in Classification		Licenses not Renewed			Current Licenses as at 30-6-61	Total 30-6-61
			Plus	Minus	Refused	Relinquished	Under Consideration		
709	General mills .. .. .	2	1	..	13	22	12	665	677
13	Case mills .. .. .	..	1	..	..	..	..	14	14
54	Sleeper mills .. .. .	6	..	..	5	1	..	54	54
22	Other restricted .. .. .	..	..	1	..	1	1	19	20
75	Resaw and dressing .. .. .	2	..	1	..	6	1	69	70
873		10	2	2	18	30	14	821	835

### OFFENCES

During the year ended the 30th June, 1961, officers reported 177 cases of breaches of the Acts and Regulations administered by the Department.

Proceedings were successfully instituted against three persons, and fines totalling £60 imposed.

In sixty-nine cases of unauthorised timber operations, where it was considered the offences did not warrant proceedings, the value of the timber was collected and warnings issued. In some instances, part of the costs of investigation was charged. Appropriate action was taken in other cases.

As a result of action taken in all cases, an amount of £4,041 was recovered by the Crown in timber revenue.

Log price adjustments were made during the year in accordance, generally, with principles recommended by the Timber Inquiry Committee.

Hardwood log prices in South-Eastern Queensland were increased to extend the zone of supply for the normal metropolitan market, supplies in closer proximity having diminished.

Hoop and Bunya Pine log prices were adjusted as between grades, to equate log prices to sawn prices.

Cypress Pine log prices were reduced to take into account movement of sawn price in interstate markets.

New plantation thinnings prices, differentiating between first and subsequent thinnings, and new log prices for Mackay scrubwoods, were also adopted.

In other cases minor increases in log prices at depots were necessary in order to cover increase in freight and log extraction costs which have occurred since the last general review of log prices in February, 1958.

Enquiry is still proceeding into the log and sawn price relationship in North Queensland species, and in Hoop and Bunya Pine.

### HARVESTING AND MARKETING

#### General

The increasing rate of log timber removals from Crown areas, which was in evidence in 1959-60, continued during the first six months of the year under review. A subsequent depression in logging activity, attributable to credit restriction, is shown by comparative figures of Crown milling timber cut (superficial feet nett Hoppus).

	1959-60	1960-61
July to December .. .. .	131,500,000	140,700,000
January to June .. .. .	107,200,000	78,500,000
Total .. .. .	238,700,000	219,200,000

#### Mill Logs Cut—Crown and Private Lands

This table shows logs cut by all mills in the State, annually, for the periods indicated.

Year	Queensland Grown							Imported	Total	
	Hoop and Bunya Pine	Kauri Pine	Plantation Thinnings	Cypress Pine	Hardwood	Cabinet Woods	Miscellaneous			
(1,000 superficial feet)										
1955-56 .. .. .	39,238	6,235	20,054	48,411	255,023	31,361	58,990	17,829	477,141	
1956-57 .. .. .	44,395	3,643	20,029	51,772	269,226	32,500	48,245	13,993	483,803	
1957-58 .. .. .	49,517	3,030	19,460	56,744	257,472	26,678	44,785	14,396	472,082	
1958-59 .. .. .	43,729	1,897	19,931	54,072	252,500	26,631	48,458	17,365	464,583	
1959-60 .. .. .	37,614	2,081	26,420	55,738	264,069	24,644	49,595	19,944	480,105	
1960-61 .. .. . (estimated)	33,000	2,300	26,200	49,600	246,000	26,000	45,600	18,300	447,000	

#### Mill Logs—Crown Lands

The following are the annual quantities of mill logs obtained from Crown Lands as from 1951-52:—

	Super. ft.
1951-52 .. .. .	238,000,000
1952-53 .. .. .	206,000,000
1953-54 .. .. .	240,000,000

	Super ft.
1954-55 .. .. .	224,000,000
1955-56 .. .. .	223,000,000
1956-57 .. .. .	221,000,000
1957-58 .. .. .	213,000,000
1958-59 .. .. .	228,000,000
1959-60 .. .. .	239,000,000
1960-61 .. .. .	219,000,000



**FRASER ISLAND SANDS GROW VALUABLE HARDWOODS.**

Logs on dump near Forestry Department jetty ready for shipment to mainland sawmills.



**CYPRESS PINE LOGS NEAR CHINCHILLA.**

Demand for this product of inland forests was well maintained. Over 219 million superficial feet of mill logs of all species were cut from Crown forests in 1960-61.

## The Timber Business

(a) Mill Logs—	1959-60	1960-61
Hoop and Bunya Pine .. .. .	34,998,000 super. feet	31,849,000 super. feet
Forest Hardwoods .. .. .	88,245,000 super. feet	76,879,000 super. feet
Scrub Hardwoods .. .. .	12,761,000 super. feet	11,302,000 super. feet
Cypress Pine .. .. .	26,835,000 super. feet	24,093,000 super. feet
Kauri Pine .. .. .	2,139,000 super. feet	2,188,000 super. feet
Cabinet Woods .. .. .	17,797,000 super. feet	17,963,000 super. feet
Miscellaneous Species .. .. .	28,284,000 super. feet	28,601,000 super. feet
Plantation Timbers .. .. .	27,565,000 super. feet	26,234,000 super. feet
Limb Logs, Head Logs, Stumps and Flitches .. .. .	97,000 super. feet	155,000 super. feet
<b>Total Crown Mill Logs .. .. .</b>	<b>238,721,000 super. feet</b>	<b>219,264,000 super. feet</b>
(b) Construction Timbers—		
Headstocks, Transoms, Crossings, Braces, &c. .. .. .	680,274 super. feet	449,221 super. feet
Sleepers .. .. .	1,229,179 pieces	1,020,302 pieces
Girders, Corbels, Piles, Sills, and Girder Logs .. .. .	84,793 lineal feet 391,687 super. feet	101,324 lineal feet 661,381 super. feet
Poles .. .. .	440,943 lineal feet	345,206 lineal feet
House Blocks .. .. .	109,926 lineal feet	88,364 lineal feet
Mining Timbers .. .. .	449,846 lineal feet	492,061 lineal feet
Mining Timbers .. .. .	35,175 pieces	31,751 pieces
Gross Receipts from Timber Sales, &c. .. .. .	£2,176,934	£2,278,042
Net Revenue .. .. .	£1,259,568	£1,355,999

### Logging Roads—1960-61

The Department's road programme for the year constituted 104 miles of construction. Location and working surveys covering 135 miles were carried out.

Expenditure from Forestry Votes was as follows:—

	£
New Construction .. .. .	159,364
Maintenance .. .. .	67,881
Subsidies to Shire Councils .. .. .	26,644
Workers' Compensation .. .. .	695
Pay Roll Tax .. .. .	2,734
Surveys .. .. .	2,220
Fares and Freights .. .. .	5,824
Resumption for Access .. .. .	296
	£265,658

### FOREST PRODUCTS RESEARCH

The activities of the Forest Products Research Branch are summarised under the various sections.

Three pleasing aspects may be mentioned here:—

- (1) Increased efficiency in the hardwood milling industry revealed by the mill studies.
- (2) A greater awareness of the need for proper moisture control of sawn timber as revealed by the moisture testing service.
- (3) An increase in the number of preservative plants, including the installation and operation of the first vacuum pressure cylinder treatment plant in Queensland.

These trends if continued can only lead to better utilisation and appreciation of the qualities of wood in service.

#### I. Engineering and Economics

Extension services in sawmill engineering were again in demand but not to the same extent as in the previous year, due largely to the effects of the credit restrictions.

A design for a new thinnings mill was prepared. Several designs for waste removal conveyors were also prepared.

McCashney incinerator installations in South Queensland were inspected with an officer from the Division of Forest Products, C.S.I.R.O.

Studies in sawmill economics were continued viz:—

(1) South-East Queensland Hardwoods—Thirteen mills studied in 1953 were again studied after a seven-year interval. The 1960 results are very encouraging in the light of the endeavours of the Department and the Industry to improve

efficiency. Stated briefly, recovery of sawn timber has increased (despite an increase in log defect), more volume throughput has been achieved in lesser productive time and with smaller average mill crews.

Complete results have been published.

(2) Sawing studies on fully pruned stems of Hoop Pine from Yarraman and Imbil were completed and results are being analysed. For butt logs (comprising the pruned section), a taper sawing schedule appears to give an advantage in sawn value over a square sawing schedule.

(3) North Queensland—Arrangements are in hand to conduct mill studies, the field work being carried out by the Division of Forest Products, C.S.I.R.O.

#### II. Seasoning

The usual free service of moisture content tests was continued, the number of samples received being 1,620, an increase of 712 for the year. Results for flooring and dressed weatherboards are:—

Moisture Content Range	Percentage of Total Number of Samples (1959-60 Figures in Parentheses)	
	Flooring	Weather- boards
Below 10 per cent. .. .. .	4 (1)	.. (1)
10-15 per cent. .. .. .	71 (54)	97 (33)
Above 15 per cent. .. .. .	25 (45)	3 (66)

These figures show a vast improvement since last year, which is very pleasing to record.

Extension services in seasoning continued through the year with visits to sawmills and kiln installations.

One new kiln was installed during the year. This is a fully automatic kiln, steam heated by day and electrically heated by night.

The forced air drying experiment has continued with encouraging results. A small commercial unit using this principle is operating satisfactorily.

The air seasoning experiments in North Queensland are continuing to cover as wide a range of species as possible.

A kiln seasoning experiment to develop schedules for satisfactory seasoning of heartwood in a South Queensland scrubwood species was commenced.

### III. Timber Physics

Work was continued on the investigation of physical properties and quality of sawn material in plantation and naturally-grown timbers.

Investigation of plantation Hoop Pine was completed, the main points covered being:—

- (a) Prediction of physical properties for a stem from those of a single diametric strip.
- (b) Distribution of physical properties within and between trees.
- (c) Relationship between physical properties and behaviour of sawn material in seasoning.

Complete results are being published.

Following on (c) above, it has been established that mean twist in seasoned material is directly proportional to mean spiral grain in a strip 6 inches above ground level, and inversely proportional to stem size.

The study of physical properties between and within trees of plantation grown Kauri Pine (*Agathis palmerstoni*) has continued with emphasis on spiral grain and its distribution in the stem.

Cupping of boards in seasoning has been shown to depend on the difference between tangential and radial shrinkages and curvature of growth rings.

Taper sawing of plantation logs has been shown to increase the value of sawn timber both green off saw and seasoned.

Preliminary work on ply-log classification of North Queensland Kauri Pine has shown that mean spiral grain of a radial strip may be assessed from spiral grain of external samples and radius of log.

Black Cypress Pine compared favourably with respect to shrinkages and density to White Cypress Pine.

Observations on the Equilibrium Moisture Content survey continued during the year.

### IV. Wood Anatomy and Utilisation

(1) **Utilisation.**—Assistance to the timber industry and users of wood continued on an expanding scale, 820 personal enquiries (in addition to letters) and 2,391 identifications being handled. The lecture programme as for previous years was continued.

Co-operation with the Standards Association of Australia continued in the preparation of grading rules for acceptable standards in both rough sawn and dressed timber. The correct application of grading rules in practice is essential if full utilisation is to be obtained. Complaints of non-adherence to grading rules in current use, are indicative of wasteful practices.

Co-operation has been maintained with other Government Departments and Trade Associations. Assistance has been given in supply of samples for both overseas and interstate tests on particular projects. The marine borer test pieces installed at Darra in co-operation with the Division of Forest Products have been regularly inspected. Evaluation of the various treatments is progressing.

(2) **Wood Anatomy.**—The problem of obtaining estimates of heritability of both physical and anatomical properties was thoroughly investigated. Initially, work will commence on 16-year-old open pollinated progeny representing 13 parents of Slash Pine.

An investigation of inheritance of initial tracheid length in Slash Pine has commenced, using one-year-old F1 progeny of seven controlled crosses with a single male parent.

A new method of measuring cell cross-sectional dimension has been devised and tested.

Observations are complete in an investigation of longitudinal shrinkage, basic density, ring width, percentage latewood, tracheid length and micellar angle variation within and between 3 "plus" trees of Slash Pine and the progeny of one of them.

An investigation of growth ring formation in plantation-grown Slash Pine and Loblolly Pine to correlate latewood formation with periodic weather cycles and to compare latewood deposition periods with those for *Pinus* spp. in Southern Australia and overseas has commenced.

The effect of suppression on percentage latewood in Slash Pine and Loblolly Pine has been investigated.

### V. Chemistry, Preservation and Plywood

(1) **Chemistry.**—One section of the new laboratory was completed and chemical work has been started again.

Spot testing of preservatives covered 850 samples. Moisture content determinations were done on 1,620 samples.

### (2) Preservation—

(a) **Against Lyctus.**—There was a further increase in the number of treatment plants approved under "The Timber Users' Protection Acts, 1949 to 1955." At present 97 plants are registered, another five are awaiting registration, and one is in course of construction.

The first commercial vacuum pressure cylinder treatment plant in Queensland commenced operations, using a fixed multi-purpose salt.

(b) **General Purpose Preservation.**—Installation of sleepers treated using high pressure treatments was completed. A number of preservatives are being tested, including creosote and a fixed water soluble preservative. This is a co-operative project with the Queensland Railways Department and the Division of Forests Products, C.S.I.R.O.

Field inspections of stakes and boards treated with a number of preservatives continued. So far, all preservatives are showing promise. For ground line service, the oil borne preservatives copper naphthanate and pentachlorophenol are more satisfactory than zinc naphthanate. A fixed multi-purpose water borne preservative is satisfactory.

Continued interest has been shown in the application of fungicides against sapstains.

(3) **Plywood and Veneer.**—Extension services only were possible since the new laboratory is incomplete. Interest has increased in the manufacture of jointed material and laminations.

(4) **Timber Users' Protection Acts.**—"Timber Users' Protection Acts, 1949 to 1955," complaints received totalled 36, of which 18 have been withdrawn or settled. Legal proceedings are being considered in 4 cases and negotiations are continuing in the remainder.

Inspections in country areas to date have revealed that except for two areas, satisfactory compliance with the Act was being observed insofar as Lyctus susceptible timber is concerned.

Numerous enquiries have been received regarding the installation of treatment plants. Details are given under Preservation.

(5) **Hylotrupes (European House Borer) and other Insect Attacks.**—Work under the direction of the Hylotrupes Committee covered re-inspection of the previously fumigated houses. To date, no evidence of active infestation has been found.

Complaints regarding Jewel Beetle attack in Hoop Pine and Cypress Pine continue to be received.

### VI. Biometrics

(1) **Statistics.**—Punch cards processed for statistical purposes totalled 90,200.

By use of punched card methods analyses of sawmill studies were handled with substantial savings in time.

(2) **Biometrics.**—Analyses of experiments in wood structure, timber physics, plant nutrition, silviculture and harvesting were done.

### VII. Experimental Yard

The sawmill section worked at full capacity, mainly on recovery studies of plantation grown logs.

A kiln seasoning experiment was commenced.

### STAFF

At 30th June, 1961, there were 365 salaried officers on the staff, 12 more than at the same time in 1960. The number of wages men increased from 1,729 to 1,865.

Twenty-four salaried officers left the Department during the year, and two officers—Messrs. W. C. Marshall and B. Kidd—were retired after having reached the retiring age.

It is with deep regret that the deaths are recorded of Forest Rangers James Hagan and Samuel Benstead, both of the Dalby District, and Miss Jessie Newell, Clerk, Administration Branch, Brisbane. The sympathy of all members of the Department is extended to the bereaved relatives.

Mr. P. Hawkins was awarded the Russell Grimwade Prize for the year 1961 and left for Oxford in February.

Mr. R. Florence and Dr. B. N. Richards were each awarded C.S.I.R.O. Overseas Studentships. Mr. Florence and Dr. Richards left for the United States of America in March and July respectively.

### ACKNOWLEDGMENT

I desire to record my appreciation of the loyal and efficient service of all members of the staff during the past year.

V. GRENNING,  
Conservator of Forests.

# APPENDICES

## APPENDIX A

### Return of Timber, &c., Removed from Crown Lands during the Year ended 30th June, 1961

SPECIES	QUANTITY	
	Super. feet	Super. feet
<b>Milling Timber—</b>		
Hoop and Bunya Pine—		
Ply .. .. .	4,202,122	
Logs .. .. .	14,628,789	
Tops .. .. .	13,018,186	
		31,849,097
Kauri Pine .. .. .	2,188,179	
Cypress Pine .. .. .	24,093,020	
Forest Hardwoods .. .. .	76,878,964	
Scrub Hardwoods .. .. .	11,302,272	
Cabinet Woods .. .. .	17,962,613	
Miscellaneous Species .. .. .	28,601,002	
Limb Logs, Head Logs, Stumps and Flitches .. .. .	154,604	
		161,180,654
<b>Plantation Thinnings—</b>		
Hoop Pine .. .. .	18,775,228	
Bunya Pine .. .. .	129,997	
Kauri Pine .. .. .	304,201	
Slash Pine .. .. .	3,791,589	
Loblolly Pine .. .. .	1,975,474	
<i>Pinus radiata</i> .. .. .	69,957	
<i>Pinus patula</i> .. .. .	1,138,022	
Other Species .. .. .	49,115	
		26,233,583
		219,263,334
		Expressed as Superficial feet (Hoppus) Log Measure
<b>Other Classes—</b>		
Sleepers Hewn .. .. .	262,678 pieces	9,981,764
Sleepers Sawn—5 ft. .. .. .	232,287 pieces	6,504,036
Sleepers Sawn—7 ft. .. .. .	355,221 pieces	13,498,398
Sleeper Blocks (as sleepers contained) .. .. .	170,116 pieces	6,124,176
Transoms, Crossings, Headstocks, Longitudinals .. .. .	449,112 superficial feet	718,579
Girders, Corbels, Piles, Sills, Kerb Logs .. .. .	101,324 lineal feet	1,823,832
Girder Logs .. .. .	100,291 superficial feet	100,291
Poles .. .. .	345,206 lineal feet	2,416,442
House Blocks, Round Posts .. .. .	88,364 lineal feet	530,184
Fencing Material—Split .. .. .	326,944 pieces	2,942,496
Fencing Material—Round .. .. .	164,931 lineal feet	412,328
Mining Timber—Split .. .. .	31,751 pieces	127,064
Mining Timber—Round .. .. .	492,061 lineal feet	984,122
Stakes .. .. .	10,212 pieces	81,696
Fender Chocks .. .. .	489 superficial feet	611
		46,245,959

Other Classes—continued—	
Fuel .. .. .	60,586 tons
Charcoal .. .. .	1,310 bags
Trees and Plants (number) .. .. .	239,440
Sand, Gravel, Soil, &c. .. .. .	275,930 cubic yards
Freestone .. .. .	2,547 cubic feet
Rosewood .. .. .	55½ tons
Lawyer Cane .. .. .	33½ tons
Staghorns and Ferns .. .. .	513 pieces
Peat .. .. .	182 bags
Bark and Dry Leaves .. .. .	36 bags
Mulga Wood .. .. .	96½ tons
Bee Hives .. .. .	9 hives
Woodchopping Blocks .. .. .	62 blocks

## APPENDIX B

### Total Receipts, Department of Forestry, for the Year ended 30th June, 1961

DISTRICTS	TOTALS		
	£	s	d
Group 1—South Queensland (Beerwah, Brisbane, Bundaberg, Gayndah, Gympie, Imbil, Maryborough, Monto, Murgon, Pechey, Yarraman) .. .. .	1,209,080	4	8
Group 2—North Queensland (Atherton, Herberton, Cooktown, Port Douglas, Cairns, Innisfail, Ingham, Charters Towers, Ravenswood, Hughenden, Townsville) .. .. .	468,668	16	4
Group 3—Dalby, Roma, Taroom, Charleville, Mitchell, Quilpie .. .. .	121,174	0	6
Group 4—Warwick, Goondiwindi, Inglewood, St. George, Stanthorpe, Cunnamulla .. .. .	79,615	12	9
Group 5—Mackay, Rockhampton, Clermont, Bowen, Proserpine, Emerald, Springsure, Theodore .. .. .	60,250	11	2
Group 6—Bacaldine, Blackall, Jundah, Longreach, Muttarburra, Stonehenge, Winton, Aramac, Isisford, Jericho .. .. .	1,410	10	9
Group 7—Cloncurry, Boulia, Kynuna, Mackinlay, Richmond .. .. .	287	12	1
Group 8—Burketown, Coen, Croyden, Georgetown, Normanton, Thursday Island .. .. .	1	10	0
	£1,940,488	18	3
Receipts—Forestry and Lumbering .. .. .	299	108	3
Sale of Plants, Material, &c. .. .. .	26,209	5	4
Licenses* (See note after Appendix C) .. .. .	3,138	3	4
Rents and Grazing Dues .. .. .	9,677	11	1
	£2,278,622	1	8
Less Treasury Refunds .. .. .	579	17	2
	£2,278,042	4	6
	£	s.	d.
Plant Hire—			
Charged Loan Fund Projects .. .. .	175,230	8	9
Trust Fund Projects .. .. .	74,999	7	11
Revenue Fund Projects .. .. .	727	11	8
Remitted to Treasury .. .. .	250,957	8	4
	£2,528,999	12	10

## APPENDIX C

### Proceeds of Sales of Timber, &c., for the Period 1st July, 1957, to 30th June, 1961

Groups*	1957-58		1958-59		1959-60		1960-61	
	£	s. d.	£	s. d.	£	s. d.	£	s. d.
Group 1 .. .. .	1,330,952	16 4	1,248,990	1 9	1,147,555	8 1	1,209,080	4 8
Group 2 .. .. .	468,216	14 3	502,281	17 9	396,262	12 4	468,668	16 4
Group 3 .. .. .	118,414	15 6	106,115	11 9	124,987	16 9	121,174	0 6
Group 4 .. .. .	101,053	9 5	87,464	11 6	78,919	14 5	79,615	12 9
Group 5 .. .. .	35,773	18 2	34,861	5 6	53,722	6 11	60,250	11 2
Group 6 .. .. .	4,281	4 4	1,390	19 5	1,451	13 6	1,410	10 9
Group 7 .. .. .	532	6 7	466	16 10	379	14 2	287	12 1
Group 8 .. .. .	..	..	1	15 0	7	0 0	1	10 0
	2,059,225	4 7	1,981,572	19 6	1,803,286	6 2	1,940,488	18 3
Receipts—Forestry and Lumbering .. .. .	383,692	17 0	188,742	1 0	347,525	11 1	299,108	3 8
Sale of Plants, Material, &c. .. .. .	22,899	12 8	17,981	0 4	15,253	14 11	26,209	5 4
Licenses† .. .. .	2,827	8 2	2,866	0 4	2,921	1 8	3,138	3 4
Rents and Grazing Dues .. .. .	8,951	16 10	8,515	15 10	9,716	3 11	9,677	11 1
	2,477,596	19 3	2,199,677	17 0	2,178,702	17 9	2,278,622	1 8
Less Treasury Refunds .. .. .	2,444	10 9	4,807	0 11	1,768	10 7	579	17 2
<b>Total</b> .. .. .	<b>2,475,152</b>	<b>8 6</b>	<b>2,194,870</b>	<b>16 1</b>	<b>2,176,934</b>	<b>7 2</b>	<b>2,278,042</b>	<b>4 6</b>

\* For districts within the groups see Appendix C.

† Includes the following license fees:—Fuel, Quarry, Royalty, Brand, Sawmill, Apiary, Forest Products, Sales Permits.

## APPENDIX D

Constructional Timber Supplied During Financial Year 1960-61  
under Forestry and Lumbering Operations

Class of Timber	Quantity	Sales Value		
		£	s.	d.
Hewn Crossings ..	42,060 superficial feet	1,820	8	7
Sawn Crossings ..	106,509 superficial feet	5,003	18	9
Fender Chocks ..	489 superficial feet	106	9	1
Hardwood (round) ..	99 superficial feet	7	18	10
Headstocks and Braces	18,534 superficial feet	1,221	2	5
Hewn Transoms ..	47,203 superficial feet	2,397	14	0
Sawn Transoms ..	127,006 superficial feet	6,417	5	5
House Blocks ..	2,492 lineal feet	654	3	0
Piles ..	4,848 lineal feet	2,794	4	10
Poles ..	230 lineal feet	205	10	0
Girders—Dressed ..	22,199 lineal feet	21,067	2	8
Hewn Sleepers ..	262,678 pieces	96,242	6	10
Sawn Sleepers ..	11,059 pieces	7,224	0	4
Sleeper Blocks (as sleepers contained) ..	140,261 pieces	107,414	10	8
Split Posts and Rails ..	64,280 pieces	12,420	9	8
Total ..	..	£264,997	5	1

## APPENDIX E

Comparative Statement of Expenditure for Years 1959-60 and  
1960-61

	1959-60	1960-61
	£	£
Revenue—		
Salaries ..	366,763	443,943
Travelling Expenses and Incidentals ..	36,939	32,090
Fares, Printing, Stores, &c. ..	5,390	6,214
Cash Equivalent of Long Service Leave	4,909	3,617
Timber Industry Milling and Log Marketing Inquiry Committee ..	720	..
National Parks ..	45,000	47,584
Loan—		
Reforestation ..	1,496,494	1,669,176
Acquisition of Land for Forestry Purposes ..	9,820	2,848
Access Roads ..	168,990	169,677
Purchase of Plant ..	94,129	119,731
Trust—		
Hardwood Supplies to Railway Department and Others ..	341,398	245,984
Harvesting and Marketing Timber ..	456,344	536,855
Access Roads—Maintenance and Subsidies ..	86,309	95,981
Maintenance of Capital Improvements	33,315	43,222
Maintenance of Plant ..	184,999	194,988
Interest and Redemption on Loans ..	1,259,568	1,098,062
Total ..	£ 4,591,087	4,709,972

## APPENDIX F

## Net Area of Plantation Established 1st April, 1960, to 31st March, 1961

Species	Brisbane	Gympie	Mackay	Mary- borough	Monto	Murgon	North Queens- land	Warwick	Yarra- man	Queens- land Totals
	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres
<i>Softwoods</i>										
A. Native Conifers—										
Hoop Pine ..	23.0	436.5	..	..	131.3	383.5	45.7	..	858.7	1,878.7
Bunya Pine ..	..	58.2	..	..	..	..	..	..	..	58.2
Other Native Conifers ..	..	0.9	..	..	..	..	..	..	..	0.9
B. Exotic Conifers—										
<i>P. elliotii</i> ..	548.0	475.9	47.0	534.4	..	..	..	18.0	..	1,623.3
<i>P. taeda</i> ..	5.0	..	..	..	..	..	..	..	..	5.0
<i>P. patula</i> ..	..	..	..	..	..	..	..	..	125.9	125.9
<i>P. caribaea</i> ..	9.1	12.0	526.5	..	..	..	9.0	..	..	556.6
<i>P. radiata</i> ..	..	..	..	..	..	..	..	116.0	23.0	139.0
<i>P. palustris</i> ..	..	..	..	..	..	..	..	..	..	..
Others ..	..	5.4	0.5	..	1.8	0.1	..	..	..	7.8
C. Broadleaved Softwoods—										
Silky Oak ..	..	..	..	..	..	..	..	..	..	..
Maple ..	..	2.4	..	..	..	..	..	..	..	2.4
Red Cedar ..	..	..	..	..	..	..	..	..	..	..
Others ..	..	0.1	..	..	..	..	..	..	..	0.1
Total Softwoods ..	585.1	991.4	574.0	534.4	133.1	383.6	54.7	134.0	1,007.6	4,397.0
<i>Eucalypts</i>										
<i>Euc. grandis</i> ..	..	83.5	..	..	..	..	..	..	..	83.5
Other Eucalypts ..	6.0	46.0	..	..	..	..	..	..	..	52.0
Total—Eucalypts ..	6.0	129.5	..	..	..	..	..	..	..	135.5
Total—All species ..	591.1	1,120.9	574.0	534.4	133.1	383.6	54.7	134.0	1,007.6	4,533.4



## APPENDIX G

## Net Area of Effective Plantation Classified into Forestry Districts to 31st March, 1961

Species	Brisbane	Gympie	Mackay	Maryborough	Monto	Murgon	North Queensland	Warwick	Yarraman	Queensland Totals
	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres
<i>Softwoods</i>										
A. Native Conifers—										
Hoop Pine .. .. .	450.7	15,455.6	15.4	137.6	2,787.7	8,642.2	881.5	..	17,425.6	45,796.3
Kauri Pine .. .. .	2.2	1,554.0	0.7	69.7	..	..	290.1	..	7.1	1,923.8
Bunya Pine .. .. .	1.5	381.1	1.7	4.7	1.2	37.6	0.9	..	58.0	486.7
Others .. .. .	5.2	51.4	0.6	1.7	1.6	..	0.9	..	0.4	61.8
B. Exotic Conifers—										
<i>P. elliotii</i> .. .. .	11,384.9	7,589.3	2,345.8	9,343.7	70.5	54.3	7.8	709.3	916.4	32,422.0
<i>P. taeda</i> .. .. .	3,313.0	105.1	9.8	54.1	1.0	116.2	13.7	224.7	41.4	3,879.0
<i>P. patula</i> .. .. .	18.7	22.2	7.6	8.1	25.2	123.9	43.6	669.8	3,088.9	4,008.0
<i>P. caribaea</i> .. .. .	26.3	51.9	1,700.5	94.6	1.0	..	23.5	..	..	1,897.8
<i>P. radiata</i> .. .. .	..	..	..	..	..	..	..	1,407.1	421.2	1,828.3
<i>P. palustris</i> .. .. .	252.7	1.8	5.8	1.0	..	..	..	9.2	2.6	273.1
Others .. .. .	83.2	20.8	73.7	16.2	8.5	1.8	10.1	29.4	24.2	267.9
C. Broadleaved Softwoods—										
Silky Oak .. .. .	..	175.9	..	..	..	32.1	31.7	..	675.5	915.2
Maple .. .. .	..	61.0	..	..	..	..	202.3	..	..	263.3
Red Cedar .. .. .	..	12.5	..	..	..	..	29.2	..	..	41.7
Others .. .. .	0.1	105.2	..	0.3	0.8	0.9	93.6	..	..	200.9
Total—Softwoods .. .. .	15,538.5	25,587.8	4,161.6	9,731.7	2,897.5	9,009.0	1,628.9	3,049.5	22,661.3	94,265.8
<i>Eucalypts</i>										
<i>Euc. saligna</i> .. .. .	42.2	900.2	..	..	..	33.7	0.7	..	215.7	1,192.5
<i>Euc. paniculata</i> .. .. .	229.2	216.2	..	..	..	76.4	35.6	..	459.3	1,016.7
<i>Euc. microcorys</i> .. .. .	215.4	17.5	..	..	..	..	27.7	..	28.7	289.3
<i>Euc. pilularis</i> .. .. .	160.9	..	..	..	..	..	0.2	..	..	161.1
Other Eucalypts .. .. .	25.3	403.3	..	..	..	12.8	4.0	..	12.7	458.1
Total—Eucalypts .. .. .	673.0	1,537.2	..	..	..	122.9	68.2	..	716.4	3,117.7
Total—All Species .. .. .	16,211.5	27,125.0	4,161.6	9,731.7	2,897.5	9,131.9	1,697.1	3,049.5	23,377.7	97,383.5

## APPENDIX H

## Areas of Natural Forest Treated

## A.—EUCALYPTS

Sub-District	Treated 1960-61	First Treatment 1960-61	Total as at 30th June, 1961
	Acres	Acres	Acres
Brisbane .. .. .	1,250	396	25,044
Beerburum .. .. .	1,599	..	19,761
Gympie .. .. .	681	185	16,603
Imbil .. .. .	..	..	159
Mackay .. .. .	1,148	1,148	1,148
Clermont .. .. .	..	..	33,875
Maryborough .. .. .	8,115	4,373	88,449
Bundaberg .. .. .	3,825	1,273	28,104
Fraser Island .. .. .	450	84	18,645
Monto .. .. .	1,146	913	15,881
Murgon .. .. .	2,208	188	21,078
Atherton .. .. .	128	128	3,439
Ingham .. .. .	..	..	2,985
Warwick .. .. .	765	70	9,977
Inglewood .. .. .	..	..	16,507
Yarraman .. .. .	401	365	6,387
Benarkin .. .. .	45	45	2,051
Dalby .. .. .	..	..	45,922
Total—Eucalypts	21,761	9,168	356,015

## B.—CYPRESS PINE

Sub-District	Treated 1960-61	First Treatment 1960-61	Total as at 30th June, 1961
	Acres	Acres	Acres
Bundaberg .. .. .	57	57	1,608
Fraser Island .. .. .	..	..	4,424
Monto .. .. .	..	..	2,496
Inglewood .. .. .	5,470	1,575	79,379
Dalby .. .. .	11,998	9,084	162,470
Total—Cypress Pine	17,525	10,716	250,377

## APPENDIX H.—continued.

## C.—RAIN FOREST

Sub-District	Second Treatment 1960-61	First Treated 1960-61				First Treatment Completed 1960-61	Total as at 30th June, 1961
		Brushed	Ringbarked and Thinned	Logged under Treemarking Conditions	Trees Interplanted		
	Acres	Acres	Acres	Acres	Number	Acres	Acres
Natural Hoop Pine— Maryborough .. .. .	..	..	..	..	..	65	65
Bundaberg .. .. .	..	..	..	..	..	20	9,922
Total—Natural Hoop Pine	..	..	..	..	..	85	9,987
Natural Rain Forest— Atherton .. .. .	822	611	565	2,742	8,209	565	2,783
Ingham .. .. .	..	91	91	580	..	91	91
Total—Natural Rain Forest	822	702	656	3,322	8,209	656	2,874
Total—Rain Forest .. ..	822	702	656	3,322	8,209	741	12,861
Grand Total—						Acres	
Eucalypts .. .. .						356,015	
Cypress Pine .. .. .						250,377	
Rain Forest .. .. .						12,861	
						619,253	

## APPENDIX I

## State Forests, Timber Reserves, National Parks and Scenic Areas, listed by Forestry Districts and Sub-Districts, at 30th June, 1961

District	Sub-District	State Forests			Timber Reserves			National Parks			Scenic Areas		
		No.	Area		No.	Area		No.	Area		No.	Area	
			A.	R. P.		A.	R. P.		A.	R. P.		A.	R. P.
North Q'land	Atherton ..	23	264,194	0 15	42	1,270,186	1 19	9	111,219	3 28	33	5,661	1 35
	Ingham ..	6	183,993	0 0	12	472,454	2 37	8	191,647	0 0	12	1,300	0 0
	Total ..	29	448,187	0 15	54	1,742,641	0 16	17	302,866	3 28	45	6,961	1 35
Mackay ..	Mackay ..	6	95,457	0 0	25	163,864	3 36.1	22	251,921	0 0	63	15,727	3 17
	Rockhampton ..	9	209,028	1 0	18	172,558	0 22	1	1,550	0 0	14	1,047	0 0
	Clermont ..	3	132,378	3 35	10	210,762	2 0	2	114,800	0 0	..	..	..
Total ..	18	436,864	0 35	53	547,185	2 18.1	25	368,271	0 0	77	16,774	3 17	
Monto ..	Monto ..	15	377,159	1 35	38	214,967	3 26	1	3,830	0 0	4	115	2 0
	Kalpowar ..	7	25,189	3 20	16	49,522	1 16	..	..	..	..	..	..
	Total ..	22	402,349	1 15	54	264,490	1 2	1	3,830	0 0	4	115	2 0
Maryborough	Maryborough ..	38	355,314	3 1	19	31,302	2 37	3	10,540	0 0	3	805	0 0
	Fraser Island ..	1	392,138	0 0	..	..	..	..	..	..	..	..	..
	Bundaberg ..	17	144,545	2 23	29	91,274	3 7	..	..	..	..	..	..
Total ..	56	891,998	1 24	48	122,577	2 4	3	10,540	0 0	3	805	0 0	
Dalby ..	Dalby ..	44	1,502,180	2 26	13	124,177	0 39	2	24,545	0 0	..	..	..
Gympie ..	Gympie ..	34	291,252	2 37	4	2,704	0 7	..	..	..	4	848	0 0
	Imbil ..	10	142,851	0 0	3	353	0 7	..	..	..	1	640	0 0
	Total ..	44	434,103	2 37	7	3,057	0 14	..	..	..	5	1,488	0 0
Murgon ..	Murgon ..	14	96,179	3 17	11	54,920	1 3	..	..	..	..	..	..
	Gallangowan ..	4	37,910	0 0	..	..	..	..	..	..	..	..	..
	Jimna ..	4	83,889	0 0	2	5,420	0 0	..	..	..	..	..	..
Total ..	22	217,978	3 17	13	60,340	1 3	..	..	..	..	..	..	
Yarraman ..	Yarraman ..	26	111,351	3 8	17	23,832	1 9	..	11,085	0 0	1	30	3 0
	Benarkin ..	3	54,362	0 0	5	6,537	2 26	..	..	..	..	..	..
	Total ..	29	165,713	3 8	22	30,369	3 35	..	11,085	0 0	1	30	3 0
Brisbane ..	Brisbane ..	46	156,236	3 38	30	60,627	1 29	8	75,563	2 0	22	5,586	0 9
	Beerburum ..	36	98,313	2 11	19	6,998	3 17	1	1,669	3 20	10	2,245	2 33
	Total ..	82	254,550	2 9	49	67,626	1 6	9	77,233	1 20	32	7,831	3 2
Warwick ..	Warwick ..	15	69,557	3 37	8	23,178	3 18	3	15,323	0 0	4	494	3 0
	Inglewood ..	12	300,734	3 35	13	62,694	2 28	..	..	..	..	..	..
	Total ..	27	370,292	3 32	21	85,873	2 6	3	15,323	0 0	4	494	3 0
Grand Total		373	5,124,219	2 18	334	3,048,338	3 23.1	60	813,694	1 8	171	34,502	0 14

At 30th June, 1961—

Total area reserved for—

State Forests .. .. .	5,124,219	2 18
Timber Reserves .. .. .	3,048,338	3 23.1
National Parks .. .. .	813,694	1 8
Scenic Areas .. .. .	34,502	0 14

Total Reservations .. .. . 9,020,754 3 23.1

## APPENDIX J

## Reservations for the Year ended 30th June, 1961

1st July, 1960, to 30th June, 1961

## STATE FORESTS

	No.	A.	R.	P.
At 1st July, 1960 .. .. .	372	5,118,483	1	2
Proclaimed 1-7-60 to 30-6-61 ..	1	3,470	0	0
V.C.L. added to existing reserves ..	..	670	2	37
Recomputation of boundary .. ..	..	900	2	19
Timber Reserves converted to State Forests .. .. .	..	695	0	0
<b>Total at 30th June, 1961 ..</b>	<b>373</b>	<b>5,124,219</b>	<b>2</b>	<b>18</b>

## TIMBER RESERVES

At 1st July, 1960 .. .. .	337	3,055,739	3	7
Proclaimed 1-7-60 to 30-6-61 ..	2		3	35.1
V.C.L. added to existing reserves ..	..	110	0	0
Recomputation of boundary .. ..	..	20	0	0
Areas released .. .. .	..	3,350	0	0
Reserves cancelled .. .. .	5	4,181	3	19
<b>Total at 30th June, 1961 ..</b>	<b>334</b>	<b>3,048,338</b>	<b>3</b>	<b>23.1</b>

## NATIONAL PARKS

At 1st July, 1960 .. .. .	60	803,442	1	8
Proclaimed 1-7-60 to 30-6-61 ..	2	5,240	0	0
V.C.L. added .. .. .	..	5,011	3	18
Reserves cancelled for amalgamation with adjoining reserves ..	-2	..	..	..
Recomputation of boundary .. ..	..	..	..	+22
<b>Total at 30th June, 1961 ..</b>	<b>60</b>	<b>813,694</b>	<b>1</b>	<b>8</b>

## SCENIC AREAS

At 1st July, 1960 .. .. .	195	39,611	3	28
V.C.L. added .. .. .	..	21	0	27
Reserves cancelled .. .. .	1	106	2	7
Cancelled for amalgamation with adjoining reserves .. .. .	-23	5,011	3	18
Areas released .. .. .	..	12	2	16
<b>Total at 30th June, 1961 ..</b>	<b>171</b>	<b>34,502</b>	<b>0</b>	<b>14</b>

## APPENDIX K

## Distribution of Personnel, 30th June, 1961

Salaried officers .. .. .	365
Other employees .. .. .	1,865
<b>Total .. .. .</b>	<b>2,230</b>