## QUEENSLAND FOREST SERVICE



## REPORT

OF THE

## PROVISIONAL FORESTRY BOARD

FOR THE

YEAR ENDED 30th JUNE, 1931.

## QUEENSLAND FOREST SERVICE.

## to the hon. W. A. deacon, m.l.a., minister for lands, brisbane.

> Offices of the Provisional Forestry Board,
> Brisbane, 28th October, 1931.

Sir,-We have the honour to present to you the Annual Report of the Provisional Forestry Board upon the operations of the. Queensland Forest Service during the financial year ended 30th June, 1931.

We are, \&c.,
E. H. F. SWAIN, Chairman.
$\left.\begin{array}{l}\text { V. GRENNING } \\ \text { N. E. HANCOCK }\end{array}\right\}$ Acting Members.

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## FORESTRY 1931.

The Provisional Forestry Board was first constituted at the end of 1924.

Its function was to safeguard and to manage State Forest assets valued at $£ 10,000,000$ to $£ 20,000,000$.

In the six and a-half years of its existence the Provisional Forestry Board has established new forest assets to the value of $£ 213,579$, whilst returning to the Treasury revenue surpluses aggregating $£ 1,156,254$.

The ratio of its expenditure to that of its revenue is among the lowest of important Forest Departments of the British Empire, vide the following figures (for the five-year period ended 30th June, 1929):-

| Great Britain |  |  |  |  | Per cent |
| :---: | :---: | :---: | :---: | :---: | :---: |
| South Africa |  |  |  |  |  |
|  |  |  |  |  | 360 |
| South Australia |  |  |  |  | 350 |
| New Zealand |  |  |  |  | 200 |
| Victoria |  |  |  |  | 175 |
| New South Wales |  |  |  |  | 85 |
| Tasmania |  |  |  |  | 60 |
| Western Australia |  |  |  |  | 55 |
| Queensland |  |  |  |  | 28 |

The work of the Board has been made extraordinarily difficult by the absence of statutory protection and backing.

The Third British Empire Forestry Conference of 1928 drew attention to this deficiency in the following words:-
> "We understand that Queensland is the only State of Australia which does not enjoy the benefits of a comprehensive Forestry Act. Legislation dealing with forests is at present comprised in "The State Forests and National Parks Act of 1906 " and "The Crown Lands Act of 1910 " and its amendments : these do not provide for matters of finance or for effective statutory powers for the Forestry administration. It is desirable, therefore, that legislation on similar lines to that in force in other Australian States should be enacted."

The year 1931 will come to be regarded as the most critical in the history of forestry in Queensland.

It marked the interregnum between fifty years of forest denudation and the beginning of an economic era of forest development having as its objective the securing to the community of permanent and increasing forest and timber industries based on raw materials largely exclusive to Queensland.

The phenomena of this historical situation are evident in the following four separate yet coincident Governmental investigations into various aspects of Forestry in Queensland, which were pursued during the Report period:-
(1) The Parliamentary Party Sub-Committee on Forestry ;
(2) The Forest Boundaries Committee;
(3) The Timber Industry Conference Advisory Committee ;
(4) The Royal Commission on Development (Land Settlement and Forestry) in North Queensland.

Problems of inemployment and financial stress evoked by the extraordinary trade depression of 1931 have obscured the true historical values of these manifestations, but it will be found later that the year 1931 will have marked the beginnings of a true understanding of the essentiality of forests and forest management in Queensland, and that from this year dates an era of sound development of the forest and timber industries for this State.

## ECONOMICS OF WOOD PRODUCTION.

"It is a feature of modern commercial progress that in spite of substitutes and greater economies in the use of wood, the consumption of wood per capita is greatly increasing."
These are the conclusions of Messrs. Zon and Sparhawk in their "Forest Resources of the World."

In the last eighty years, indeed, the consumption of wood in the British Isles has advanced from $6 \cdot 6$, cubic feet per capita to $19 \cdot 3$ cubic feet per capita.

The same phenomenon is observable in other civilised countries, and Queensland will not be exempt from the greater need for raw forest material for her greater development.
" Hence the need of forest plantations to replace the natural forests which are being rapidly depleted.

Substitutes can be found for wood as they can for butter, wool, silk, and many other articles, but in the case of timber, substitutes generally cost more than the natural material.

Thus celotex costs 40 s. per 100 sq. ft., but Hoop Pine plywood can be bought for 15s.

New wood resources can be grown in Queensland more rapidly than in most countries of the world. Boards of Hoop and Kauri Pine,

Red Cedar, White Ash, Loblolly, Slash, and Monterey Pine, Red Messmate, Blackbutt, Tallowwood, Silky Oak, and so on can be seen at the Forest Service Showrooms, which the Forest Service has already grown from seed in the space of twelve or fourteen years.

Softwoods can be grown in Queensland in commercial plantations at a present cost of around 2s. per 100 super. ft., and this cost would be reduced to about 9 d . per 100 super. ft. if present costs and interest rates can be reduced by $33 \frac{1}{3}$ per cent.

During the report period the Forestry Board planted 1,290 acres of new forest plantations.

From the actual costs of these 1930-3I planting operations, the following detailed costs per acre have been determined:-

| Operation. | Cost per acre. |
| :---: | :---: |
|  | £ s. d. |
| Clearing site for planting (falling, lopping, and |  |
| burning) | 265 |
| Planting (including carting) | 24 |
| Refilling losses in first year | $\begin{array}{llll}0 & 2 & 3\end{array}$ |
| Refilling losses in second year | $\begin{array}{lll}0 & 4 & 7\end{array}$ |
| Tending (chipping and brushing) in first year | 74 |
| Tending (chipping and brushing) in second year | 22 |
| Tending (chipping and brushing) in third year | 42 |
| Tending (chipping and brushing) in fourth year | 0114 |
| Cost of raising plants | 2178 |
| Protection (fireline construction and maintenance, firefighting, fence construction, and maintenance) | $010 \quad 0$ |
| Overhead (wet time, holidays, recreation leave, sick leave, tools, fodder, Workers' compensation, travelling expenses, car mileage, \&c.), $18 \cdot 6$ per cent. | 2 6:2 |

Tending costs as illustrated here are higher than in actual practice, as the previous system whereby tending was done in second and third years was altered last year, when the main tending was carried out in the first year, with the result that in future years second and third year tendings will be greatly reduced.

Under a sustained forest farming operation, the nett area required to support a family is around 20 acres.

Whilst there is a world-wide tendency towards over-production of most things agricultural, there is a marked tendency towards underproduction of forest material in consequence of which higher prices may be expected.

In Queensland's situation, no crop from the soil offers more attractive prospects of employment and of general usefulness than does a forest crop.

## THE SILVICULTURAL OPERATIONS.

Operations on the State Forests for the year have been outstanding in so far as they constitute the largest annual programme yet undertaken by the Service.

The area of new softwood plantations established was 1,292 acres, an increase of 439 acres on last year's planting, whilst almost 27,000 acres of natural hardwood and Cypress Pine forests were liberated and thinned. Last year this figure was 15,000 acres.

This considerable extension of programme has been made possible by the application of the Unemployment Relief Scheme to forestry work. It is estimated that the establishment of 830 acres of plantations and the treatment of 20,500 acres of natural forest, together with 150 miles of fireline construction, can be attributed to relief labour. Though in some cases planting losses resulted from the work of inexperienced men, a percentage of whom it was necessary to employ, the standard of work by relief men has been generally high. Forestry work is definitely of great value as a productive avenue of relief for rural unemployed.

The planting of almost $1,000,000$ plants was involved in this year's plantation work. Queensland's own species again played the largest part in the work, Hoop Pine ( 46 per cent.), Silky Oak ( 17 per cent.), and Maple ( 6 per cent.) representing 69 per cent. of the total plants put out. Pinus radiata (11 per cent.), Pinus patula (9 per cent.), and Pinus teeda ( 4 per cent.) were the other chief species employed.

Though in some districts planting was commenced late owing to the delayed incidence of the summer rains, and in some cases had to be abandoned for a few.weeks on account of exceptionally hot dry conditions, the success of Hoop Pine, Maple, and Silky Oak has. again been very high.

On the Mary Valley forests establishment successes of 91 per cent. to 96 per cent. have been reported, whilst in the Brisbane Valley district the figure has averaged over 90 per cent. In the latter district the resuilts have been helped by the 315 acres of maize cover crops that were established. A heavy crop of grain is anticipated.

The openroot winter plantings of the Pinus species have also been most successful. At Beerwah Pinus toda, planted out three years ago, has reached heights of 18 ft . to 20 ft . Here only small plantings were carried out during the year, but the programme for next year aims at the establishment of 500 acres of this species and Pinus caribca.

The P. radiata and Pinus patula planted at Pechey and Passchendaele have established well though strong westerly winds damaged sections of the seedling Pinus radiata planted at Pechey. The transplant stock were. not so badly affected.

In spite of the considerable increased planting work this year the programme is still considerably below the minimum area that should be established.

Preparations for a further increase next planting season have been made, and at the close of the year there were over $2,800,000$ plants in the nurseries, of which Hoop Pine represents 82 per cent., while it is anticipated that the early spring sowings of Pinus patula, Pinus teda, and Pinus caribcea will raise this figure to over $3,500,000$.

The fall of Hoop Pine seed in December last proved to be lower than expected. Several tons, however, were collected in the Brisbane Valley District. It appears that the next seed fall, except in the same district, will again be low. This irregularity of seed fall, and the fact that seed viability is not retained to any extent beyond a period of one year led to a series of storage experiments. It has been shown from them that viability can be preserved for a period of two years at least (the period of the experiment to date) by storage at temperatures around or below 40 deg. F. It may be essential to employ this finding if a sustained annual planting of Hoop Pine is to be maintained.

A heavy seed fall of Kauri Pine in North Queensland was availed ${ }^{\circ}$ of fully, and all available bed space in the northern nurseries has been sown with this species.

Of the 27,000 acres of natural forest treatment carried out during the year, some 19,900 acres were covered for the first time.

Results in the Cypress Pine regions have been more marked this year than previously. Germination of Pine has been prolific in all cases, whilst a further heavy crop of seed is forecasted for next year. Given a good spring the survival will be high. Little or no seedfall of $E$. maculata or E. crebra on these areas occurred.

Details of the major operations in each of the various working plan areas is contained in the following summaries:-

## Brisbane Valley Working Plan Area.

Summer rains this year were later than usual, late December and early January being exceptionally hot and dry. February, March, April, and May, however, brought good falls. Autumn and early winter were particularly mild, practically no frosts being experienced. Rainfall at S.F.R. 283 was $39 \cdot 13$ inches, and $28 \cdot 59$ inches on S.F.R. 289. The maximum temperature recorded on S.F.R. 283 was 103 deg. in January, and a minimum of 26 deg. in August.

Planting operations, on account of the delayed rains, were not commenced until mid January, and were continued with breaks until the end of April.

Throughout the district a total area of 473 acres of new plantations was established, made up of 330 acres of Hoop Pine, 123 acres of Silky Oak, and 20 acres of Ironbark (Euc. paniculata) and Tallowwood (Euc. microcorys).

The scene of the major operations has been S.F.R.'s 289 and 379, near Yarraman, where 155 acres of Hoop Pine and 23 acres of Silky Oak were planted under the cover of maize shelter crops.

On S.F.R. 283 some 43 acres of Hoop Pine and 30 acres of Silky Oak were established, maize covers being used for the Hoop Pine.

In December about 100 acres on S.F.R. 257 were sown with maize and later planted with Hoop Pine ( 35 acres) and Silky Oak ( 65 acres). Twenty acres of Grey Ironbark (Euc. paniculata) and Tallowwood (Euc. microcorys) were also planted.

On S.F.R. 299 planting operations were extended over 97 acres of Hoop Pine and 5 acres of Silky Oak. About 97 acres of maize had previously been sown.

Planting successes have been high this year, and over the 330 acres of Hoop. Pine planted only 4,200 refills have been required, of which 3,000 were called for on one compartment alone where stem girdling caused heavier losses than usual.

Percentage establishment has averaged over 90.
Only a few losses are recorded in the Silky Oak plantings, these being chiefly on areas where "carry over" stock from last year was utilised.

Maize sowings over 315 acres have been successful for the most part, only a few acres having to be replanted on account of the use of infertile seed. Harvest of a heavy crop is anticipated.

On S.F.R. 283 and adjoining the Main Brisbane Road some 120 acres of previously treated Blackbutt (Euc. pilularis) and Ironbark (Euc. paniculata) stands were thinned. The whole area now presents a fine appearance.

The nurseries on S.F.R. 283 and S.F.R. 289 were extended.
In the former twelve new beds were constructed, while to the nursery on the latter - reserve four new bays of forty beds were added, two bays of which are available for immediate use, while the other two bays require only to be shaded.

The development and rate of growth of Hoop Pine in the Yarraman nursery is remarkable, and is superior to that obtained in the majority of the nurseries elsewhere in the State.

Outbreaks of fire were limited to a few minor scrub fires, no serious damage resulting. During the year a system of scrub firebreaks was laid out sufficient to cover planting operations for a period of at least five years, and these, together with a system of internal chipped breaks, should reduce fire damage to a minimum.

A research working plan of the intensive silviculture of Hoop Pine and Silky Oak, similar to that being carried out in the Mary Valley District, has been prepared for the study of these species on the drier areas of the Brisbane Valley District. A start has been made on several prescribed nursery experiments, several of which have been carried into the field.

## North Coast Working Plan Area.

The ringbarking of useless species and over-matire trees of useful species affecting young growth was commenced on S.F.R. 60 in August and carried on "until May, during which time an area of 1,120 acres was treated. This area, which had been heavily cut over in the past, carries a stand of the more valuable hardwoods, with Red Stringybark and Blackbutt predominating.

On S.F.R. 445 a further area of 130 acres received a preparatory ringbarking and coppicing treatment, whilst 550 acres were treated for the second time. On the latter areas it was found that the response of young growth to the first treatment has been very marked, but that no growth or regeneration has taken place under trees that were not ringbarked.

Similar work was carried out over an area of 180 acres of S.F.R. 318. Many patches of good regeneration have occurred on the areas previously treated, but they contain some trees of the undesired species which will be removed during thinning operations.

Preparatory treatment of like method was also effected on a further 276 acres of the hardwood stands on S.F.R. 249.

Planting operations on S.F.R. 561 were limited to 11 acres this year, due to the heavy demand on Pinus toeda by other districts to complete their programmes. Pinus toeda and Pinus caribca continue to show great promise, and 250 acres of the proposed 500 acres were felled ready for June 1932 planting of these species.

Many of the Pinus tceda planted on Portion 366, in May 1928, have now reached heights of 15 ft .

Spring sowings this year will be preceded by a cold storage treatment of the seed for two months. The results of a series of cold storage tests of seed in moist sphagnum moss indicate an increased and hastened germination if seed is stored for two months at temperatures of about $40 \mathrm{deg} . \mathrm{F}$.

## Brisbane Working Plan Area.

Ringbarking and coppicing operations were carried out on S.F.R. 215 over an area of 770 acres. The stand on this reserve. consists chiefly of Spotted Gum (Euc. maculata), Grey and Red Ironbark (Euc. paniculata and sideroxylon), Grey. Gum (Euc. propinqua), and Yellow Stringybark (Euc. acmenioides), with scattered Tallowwood (Euc. microcorys). The area had previously been heavily cut over, and only poles and some houseblocks remain. This reserve is close to Brisbane and lies only a mile or so off the Main South Coast Road, and will be managed to produce poles, houseblocks, and the incidental firewood for the Brisbane market.
Similar work was continued on S.F.R. 63, 197 acres receiving first treatment during
the year
On S.F.R. 69 some further ringbarking was carried out on the areas burnt over in 1929. Over the whole of this reserve, which has now been treated for the second time, both seedlings and coppice are plentiful, and results are very satisfactory.

On S.F.R. $50.9,57$ acres were planted with Pinus radiata-on two compartments the spacing being $14 . \mathrm{ft}$. by 14 ft , to allow of subsequent interplanting with Pinus patula. It is proposed to employ this latter species in all future operations on this reserve, and the nursery is now stocked with young seedlings.

The Pinus palula planted in June 1930 continues to show up well, and most of the plants are now up to 6 ft . high.

The plantings of June 1830 have given great success. One compartment (area 21 acres) has resulted in 98.5 per cent. establishment.

Hoop Pine planted in the first plantings on this reserve have given only moderate success, all having been more or less sisverely affected by frost. Some, however, have grown to heights of 3 ft .

The fireline system has received considerable attention during the year, and by the arrival of the fire season all breaks will have been stumped and ploughed.

## Kilkivan Working Plan Area.

Work was commenced on the Spoțted Gum (Eucalyptus maculata) stands of T.R.494, Charlestown. This area carries a fine stand of this species with some sprinklings of Narrowleaved Ironbark. (Euc. crebra) and Red Bloodwood (Euc. corymbosa). Over 1,350 acres on this reserve were subjected to an improvement treatment of ringbarking and coppicing.

The same treatment was accorded 1,574 acres of the Spotted Gum (Euc. maculata) stands on T.R. 700 (near Corella). Some seed spotting and broadcasting of E. cloeziana gave fair success. On the area burnt over in January a prolific growth of Spotted Gum (Euc. maculata) seedlings has taken place, the area being covered by young growth 12 to 18 in. high.

On T.R. 220 only 7 acres planting of Hoop Pine was carried out, but success has been high, over 90 per cent. establishment having resulted. Planting was necessarily small owing to the amount of refilling required on other planted areas necessitated by the frequent attacks of the insects referred to in previous years.

All areas are now fully stocked and looking well.
Twenty acres of Hoop Pine planting was carried out on T.R. 355, an establishment of 95 per cent. being obtained.

Little refilling of previously planted areas was required, and all plantations are now fully stocked and putting on good growth, many of the trees planted last year having reached heights of 3 ft .6 in . in twelve months.

The spread of lantana on plantation areas has received special attention during the year, and all areas are now almost free from this weed.

## Fraser Island Working Plan Area.

Plantation work was confined to the tending of over 400 acres of established plantations.

Over 1,900 acres of Blackbutt stands were treated during the year, some 976 acres receiving their first treatment.

Final treatment was carried out over areas originally treated several years ago, by the ringbarking of the larger dominating trees and the thinning of regeneration, which in almost all cases has been highly successful, and which is up to 30 ft . high on most compartments.

A series of experiments were commenced during the year and should yield valuable data on the flowering and fruiting of E. pilularis, time of seed fall, conditions required for high germination, and factors responsible for early mortality of seedlings.

Over a small area on which a burn could be encouraged during the wet season, germination of Blackbutt (Eic. pilularis) has been prolific and survival high.

The seedfall in November and December on the Cypress Pine areas was very heavy, and germination has been high. The excellent rains of February and March have resulfed in all areas being densely stocked with young Pine seedlings. Given adequate protectipn from fire the results will be highly satisfactory.

Forty-two miles of firelines were maintained by clearing and delving or, grading, the use of a light grader having proved of high value for this purpose.

It is satisfactory to note that the year was marked by the complete absence of fires.

## North Queensland Working Plan Area.

This year's planting programme was the largest attempted in this district up to date, and resulted in the establishment of 93 acres of plantations ori S.F.R. 310 and 28 acres on S.F.R. 191. Hoop Pine and Maple represent 40 per cent. aind 38 per cent. respectively of the plants put out.

Full advantage of a heavy seed crop of Kauri Pine was taken, and the increased planting programme proposed for next year will consist largely of this species.

Increase of operations demanded the coustruction of field barracks on S.F.R. 310 to house workmen and the further extension of the new Gadgarra nursery. The water supply unit of this nursery was also improved by the installation of a new hydraulic ram and water tower.

Phenomenal growth still continues to be shown by almost all species planted, and rates of growth are indicated by the following measured heights of trees on one of the Gadgarra plantations :-

| Species- | Age from Planting. |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Maple (Flindersia brayleyana) | $\ldots$ | 29 | Months. | Many over 10 ft .6 in. |

Probably the best growth has been shown by Red Stringybark (Euc. resinifera) planted on Compartment ld, S.F.R. 310, where one tree thirty months after planting is 38 ft . high with a girth of 18.7 in . The average height of the trees on this plot is 26 ft .

## Inglewood Working Plan Area.

An area of 5,640 acres of Cypress ' Pine stands on S.F.R. 79 was treated by thinning and ringbarking during the year, thus bringing the total area treated up to 15,100 acres.

Scattered pear was eradicated over an area of 32,580 acres, and it is gratifying to note that on all the dense patches of pear cactoblastis is doing good work.

There is at present on this reserve a total length of firelines of over 94 miles, $31 \frac{1}{2}$ miles of which are cleared suitable for car traffic, while the balance has been either burnt off (leaving a few logs) or is felled and stacked ready for burning.

Work was commenced this year on the Cypress Pine (Callitris glauca) and Narrowleaved Ironbark (Euc. crebra) stands on S.F.R. 122, and over 2,800 acres received a first treatment. .

Firelines received considerable attention, and 85 miles 28 chains of lines were felled and stacked ready for burning.

Dense prickly-pear over an area of 1,600 acres was eradicated.
Results last year from Callitris glauca regeneration are the best that have been obtained since operations commenced in this district, and are particularly marked on areas that have not been affected by fires during recent years. A heavy crop of Callitris glauca seed can be forecasted for next year.

The results from Ironbark are not noticeable except on small areas that have been cleared and burnt.

## Warwick Working Plan Area.

The area of new softwood plantations established during the year was 91.75 acres, alk planting consisting of Pinus radiata, with the exception of a few thousand Pinus muricata.

All planting is now carried out open root in autumn, and indications point to over 80 per cent establishments in this year's operations.

The refilling carried out last year is highly successful.
A careful soil survey on several compartments has indicated the presence of several distinct soil types, several of which are not suitable for the establishment of Pinus radiata. Other species tried out on these types have given every promise of satisfactory establishment -Pinus caribaea on one of the types being outstanding. These soil types will be utilised next planting season by selecting the more promising species, and Pinus patula will replace Pinus radiata.

The firebreak system has recéived careful attention during the year, and the eastern side of the reserve is now well protected.

## Rockhampton Working Plan Area.

Work for the year was confined to the tending and fire protection of established plantations and experimental plots.

Of the species planted in the latter, both Callitris arenosa and Callitris cupressiformis continue to do best. Pinus caribaea and Pinus toeda also indicate that they will be important species for several of the types. Hoop and Kauri Pines also are doing very well on the better soils.

## Mackay Working Plan Area.

Operations were recommenced late in the year. The nursery was put into working condition and the larger stock on hand were utilised in planting up a few acres on Bee Creek. Sowings of Kauri Pine seed were carried out to provide sufficient plants for the next year's planting programme.

Necessary tending of established plantations was effected, and revealed that in most cases Hoop Pine is doing well-many trees being over 10 ft . high.

## Bundaberg Working Plan Area.

Liberation was continued over a further 659 acres of Hoop Pine forest. Treatment consists of the cutting of vines and the brushing and ringbarking of useless timbers. The area covered during the year carries a good stand of Hoop Pine regeneration and young pole sizes up to 80 ft . in height.

The effect of similar treatment carried out in earlier years is becoming more marked each year; many of the trees are now showing up to $1 \frac{1}{2} \mathrm{in}$. girth increment per annum.

## Dalby Working Plan Area.

Operations this year have been marked by a prolific appearance of Callitris glauca seedlings and, owing to the mild wet winter experienced, a large number of the seedlings should become established. The germination of the Eucalypts has, however, been generally low.

- On S.F.R. 93 ringbarking and thinning were carried out over an area of 2,815 acres of Spotted Gum (Eucalyptus maculata) and Cypress Pine (Callitris glauca) forests. Here the stand varies from one of Spotted Gum with scattered Cypress Pine to almost pure stands of the latter species. The liberations have greatly assisted the young seedlings that appeared during the year.

Similar work with like results effected over an area of 330 acres on S.F.R. 144 and 1,332 acres on S.F.R. 4.

On the Cypress Pine stands of the Yeulba State Forest (S.F.R. 337) an area of 2,170 acres was subjected to its first thinning and ringbarking.

The Callitris glauca-Eucalyptus crebra forests of S.F.R. 34, Chinchilla, were also liberated, thinned, and ringbarked to the extent of 1,516 acres. Germination of Callitris glauca on these areas has been excellent.

A start was made on the Cypress Pine forests of S.F.R. 118 and over 1,200 acres were treated. This area carries a fine stand of immature and also seedling Pine which badly requires thinning.

More than $35 \frac{1}{2}$ miles of firelines were constructed in this district during the year.

## Mary Valley Working Plan Area.

The rainfall at Imbil for the year was $50 \cdot 70$ in., slightly above averagé, but a few inches less than that of last year and of markedly different distribution.

Though 724 points were registered in November, from the middle of December until towards the end of January was particularly hot and dry. Summer rains were somewhat later than usual, though 680 points fell in the last few days of January. In February and March the falls recorded were 13.08 in . and 10.06 in . respectively: The spring rains were of better distribution than normally, the lowest monthly fall being 91 points in September.

Hoop Pine plantings have been highly successful, actual counts over several areas revealing from 91 per cent. to 96 per cent. establishment, and this in spite of the fact that a large number of inexperienced men were engaged. -

Tending by chipping of all weeds in February or March has given good results on S.F.R. 435, where in cases no second-year tending has been required.

On S.F.R. 135, though in some areas chipping would appear to be the better system of tending, on other areas brushing would appear to be more satisfactory. The reason would appear to be one of weed successsion probably varied on S.F.R. 135 areas, due to the opening up of the scrub for several years prior to planting.

During the year 314 acres of new plantations were established on S.F.R. 135, consisting of 70 per cent. Hoop Pine, the balance being supplied chiefly by Silky Oak and Pinus toda.

On this reserve also about 160 acres of Blue Gum and Grey Ironbark forest were ringbarked. This area has been previously treated several years ago, and now carries a fine young pole and sapling stand of Blue Gum.

On S.F.R. 435, 140 acres, chiefly Hoop Pine, Maple, and Silky Oak, were planted, and over 90 per cent. establishments have been obtained. Little refilling was required.

Fifty-one acres of Hoop Pine were planted on S.F.R. 256.
Work was commenced on S.F.R. 124 by the construction of a house, nursery, forest station, and horse paddock. The nursery has been shaded and 88 beds are completed. An engine, pump, and other necessary water supply gear have been installed, and a stock of seedlings is being raised for the planting up of 60 acres early in 1932.

During the year three areas were leased on terms. of five to seven years, and are being used by the lessees for dairying, while four leases with terms of one year are being used for the grazing of surplus dairy cattle. These are in addition to the banana-growing leases.

Difficulty in disposing of timber has been the cause of no further banana leases being offered.

Prescriptions of the research working plan have been carried out during the year with highly satisfactory significant results in almost all cases. Several of the shorter term experiments carried out last year have been repeated again this year and have yielded corroborative results.

## HARVESTING AND MARKETING OPERATIONS.

The year under review has been one of acute trade depression, and the timber trade in common with other industries has suffered considerably. Sawmilling and plywood industries have for the major portion of the year been restricted to part-time operations because of lack of demand for their products.

Efforts to revive southern markets for Queensland sawn and log timbers were fruitless owing to large stocks of imported timbers held, and the effect of the general trade depression forcing holders to endeavour to unload at prices in some instances below cost. It was anticipated that the increased tariff on imported timbers, imposed in November 1930, would have given some impetus to the Queensland industry, particularly in respect to softwoods; but it was reported that large stocks of imported woods had been accumulated against the impending tariff, and the falling away in trade precluded any opening for Queensland. A representative of the Board proceeded to Victoria and New South Wales in February last to investigate the prospects for Queensland timbers, but the information secured, whilst of value, was disappointing. It was ascertained that at the present rate of consumption approximately two years' stocks of imported softwoods were held-these were moving slowly, ' and the necessity for prompt turnover resulted in some instances in sales below cost. In Victoria the local timber industry was organising with the object of substituting local hardwood for imported softwoods, and the indications were that Queensland would not participate in any business offering until at least the local Tasmanian products were marketed.

For the purposes of organising the Australian timber industry the Hpn. Minister for Markets convened a conference representative of all interested parties in Melbourne on 25th February last, the object being-
(1) To consider the adoption of an orderly marketing system for Australian timbers;
(2) The adoption of uniform grading rules for export timbers and the rigid inspection of all oversea export timbers before shipment;
(3) The improvement of production methods in connection with export of timber.

The Board's Harvesting and Marketing Officer attended the Conference and reported on the results thereof. A feature of the meeting was the olbjection of the West Australian representative to any suggestion of cco-operation between the States to further the possibilities of exporting sawn timber overseas. It appeared that the West Australian industry was saltisfied with its progress under existing arrangements.

During the year under review, in response to a request by the Plywood Manufacturers' Association of Australia to the Hon. the Minister
for Lands, for a Plywood and Veneer Pool, a committee was formed to investigate the proposal. The committee's activities extended over a period of two months, and evidence of a very interesting and instructive nature was secured from interested parties. The committee's findings included the recommendation to the Government that a Plywood Pool be formed.

An outstanding feature of the year was the lack of industrial troubles in the timber industry. Because of the general falling off in logging operations bullock team transport costs fell somewhat. Similarly, in respect to mechanical haulage, the latter in most cases were so low as to fail to provide for maintenance and depreciation of plants. A trial operation of caterpillar traction on the sandy country of Fraser Island proved very successful. Operation costs were reduced below those of bullock haulage, and deliveries were more reliable.

Efforts by the Railway Department to compete with coastal tonnage resulted in reduced freights in several localities, but railway rates generally seem high and militate against export marketing of some varieties.

Notwithstanding the favourable exchange for exportations, overseas markets absorbed only a percentage of the previous year's exports. Special efforts were made to secure a renewal of the demand in America for Walnut, with only medium results however. A small parcel of hardwood telephone poles was consigned to London, but reports indicate very real opposition to these by persons interested in creosoting plants, and nothing more than spasmodic orders is expected from this direction.

The opening of the railway line from Kyogle to Brisbane had an adverse effect on the weak Brisbane $\log$ and sawn timber market. In normal times the quantities available would hardly have affected the demand, but the abnormally weak demand was further reduced by the influx of New South Wales Pine, and the prices set resulted in reductions of the Queensland timber.

Towards the end of the year, on 27th and 28th May, the Hon. the Minister for Lands convened a conference of those interested in the timber trade and its subsidiary trades, and invited suggestions to assist him to rehabilitate the industry. In all over one hundred persons, representative of all branches of the industry and kindred industries, including the architectural and engineering professions, attended, and proposals for the betterment of the industry were submitted. The conference sat for two days. A committee was selected to investigate details of some of the propositions and submit its findings to the Government, and at the end of June it had already commenced its sittings. It is hoped that great benefit to industry will be derived from this Committee's findings and recommendations.

In view of the depression in trade the Government adopted the Board's recommendations for further reduction in the upset prices of logs from Crown forests.

The reductions which have been effected are as follows:-



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In order to stabilise the trade to the utmost extent the reduced prices were fixed for one year ahead. This year expired on 31st August, 1931. At date of writing of this Report further proposals had been submitted for Government consideration in view of the continued low state of trade.

The policy of road subsidies to Shire Councils was continued, but because of considerably reduced revenue assistance was necessarily restricted to urgent work only. Funds available to Shire Councils under the Government Unemployment Relief Scheme materially assisted to bridge the gap.

The following expenditure was approved during the year on Forestry Aid Road subsidies :-

| Landsborough Shire Council | S.F.R. 736, Parish Maleny | £50 |
| :---: | :---: | :---: |
| Noosa Shire Council | S.F.R. 393, Parish Woondum | 75 |
| Widgee Shire Council | S.F.R. 435, Parish Amamoor ; <br> S.F.R. 124, Parish Glastonbury | 160 |
| Widgee Shire Council | S.F.R. 135, Parish Brooloo | 30 |
| Noosa Shire Council | S.F.R. 393, Parish Woondum | 85 |
| Woothakata Shire Council | Oak Forest Bridge, Barron River | 60 |

and the following expenditure in subsidies incurred :-

| Woothakata Shire Council (Oak | Forest | Bridge) |  |  |  | 8. 0 | ${ }^{d}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Tinaroo Shire Council |  | .. |  |  | 1,184 | 19 |  |
| Eacham Shire Council |  | . |  |  | 297 | 11 | 9 |
| Landsborough Shire Council | $\cdots$ | $\cdots$ |  |  | 40 | 0 | 0 |
| Rosalie Shire Council |  |  |  |  | 229 | 18 | 6 |
| Widgee Shire Council | . | $\cdots$ |  |  | 266 | 13 | 0 |
| Glengallan Shire Council |  |  |  |  | 73 | 15 | 3 |
| Mirani Shire Council |  |  |  |  | 56 | 0 | 0 |
|  |  |  |  |  | £2,148 | 18 | 5 |

In addition to the aforementioned subsidies to Shire Councils for road construction and maintenance, the practice was continued of subsidising haulage contractors, and in some localities the construction and maintenance of logging roads were carried out by day labour. In Mary

Valley Working Plan Area a sum of $£ 1,0086 \mathrm{~s}$. 5d. was expended in this manner, the major portion being financed from Unemployed Relief Funds, and in Brisbane Valley, £73 6s. 4d., wholly from Unemployed Relief Funds.

With the exception of the case and butter box trade the year under review has been the worst for a decade. There has been considerable activity in both the cases and butter boxes, and extreme difficulty was experienced early in the year by manufacturers in securing supplies of raw material, owing to the fact that "tops" or case logs were unavailable because of there being no demand for building timber-the balance of the tree. The difficulty was overcome by the Crown making available logs from areas it had been decided to clear fell for planting-from which areas practically all timber had centre girth of 60 in . and less-and these logs, with the tops thereof, were sufficient for the needs of the butter box and fruit case trade without importing.

Hewn, split, and pole operations, in common with all trades, were depressed. Only forty railway orders and nine local orders were secured. The possibilities of securing business in the East and Europe for railway timbers were fully investigated, but at the end of the year had not matured. It is anticipated that, with the favourable exchange, a footing will be secured for some hardwoods and cabinetwoods. Towards the close of the year negotiations were opened with the Falmouth Dock Company for the supply of about 800 piles and about 80,000 super. ft . of sawn decking, resulting in the order being eventually secured.

The gross revenue from all sources for the year was $£ 177,544$, and the expenditure from Harvesting and Marketing and Forestry and Lumbering Fund and refunds £83,761. Net revenue was £93,783. Net revenue for the previous year was $£ 195,474$.

## ILLEGAL TIMBER OPERATIONS.

During the year 165 cases of illegal operations on Crown timber came under the Board's notice for investigation.

In 28 cases proceedings were instituted under the Land Act and the State Forests and National Parks Act, 27 of which were successful, and fines amounting to $£ 141 \mathrm{l}$ s. 6 d . were imposed. In the remaining case the complaint was dismissed. In 6 cases prosecution is pending, and several demands for royalty are still outstanding.

In 51 cases stumpage was charged on the timber and the offenders warned, whilst in 31 cases the timber was confiscated and sold to the best advantage.

In 5 cases timber waṣ seized and released after payment of royalty.
Four cases occurred where the Local Authority had operated-these involved cutting of timber and its abandonment because it was unsuitable for the purposes required, and were met by charging royalty.

A holder of a Perpetual Lease Selection in the Atherton district sold the timber on the area for $£ 100$ and then left the district. His
whereabouts being unknówn no further action could be taken against him. A small portion of the timber, was, however, seized and sold.

Two cases of unauthorised occupation of land were investigated, and brought under the notice of the Lands Department.

A case of ringbarking, involving the destruction of 2,485 Spotted Gum trees, was also dealt with.

No evidence as to the offender was available in 20 cases brought under notice.

As a result of action taken in all cases an amount of $£ 779$ has been recovered to the Crown.

## FOREST PRODUCTS RESEARCH BRANCH.

## SEASONING OF TIMBER.

## Kiln Drying-Brisbane Research Kiln.

The return from abroad of the Forest Economist of the Forest Service (Mr. C. Ellis, B.E.) was marked by renewed activity in the study of correct seasoning methods for Queensland timbers.

This work has a most important bearing upon the successful utilisation of our secondary timbers, and has been sadly neglected in the past by Queensland sawmillers.

The Board had decided last year upon the erection of a modern drying kiln at the Brisbane Timberyard to enable this work to be carried on, and after consultation with the Division of Forest Products of the Council for Scientific and Industrial Research as to the most useful design, the work of construction was commenced under the supervision of Mr. Ellis, and is now almost complete.

The primary purpose of this kiln is to enable the technique of kiln drying of our secondary woods to be successfully mastered, with a view to placing these upon the timber market in an attractive form.

Outstanding among these timbers is the case of Satinay (Syncarpia hillii), for which a good market undoubtedly exists in the form of flooring and furniture sizes, provided that thoroughly seasoned timber with a moisture content not higher than 14 per cent. is provided.

The cases of a number of the northern woods, such as Red Tulip Oak (Tarrietia peralata) and the Satinashes (Eugenia spp.) are also being dealt with. Here again very large quantities of timber were considered useless, because they could not be used with good results straight from the saw.

The economics of kiln drying cabinetwoods already on the market, such as Maple Silkwood (Flindersia brayleyana) and Silky Oak (Cardwellia sublimis), have also to be worked out.

Information obtained from the Public Works Department and State Advances Corporation shows that there is a strong demand for properly dried hardwood in the form of internal flooring and dressed chamfer boards.

If hardwood attained its full utilisation in the average house the requirements in kiln dried timber per average house would be 600 super. ft . for chamfer boards, 250 super. ft. for external flooring, and 350 super. ft . for internal flooring.

The kiln is of the internal fan type, and is designed to take a charge of about 2,400 super. ft. of $1-\mathrm{in}$. lumber in lengths up to 24 ft . This allows the most convenient lengths in flooring and chamfer boards to be seasoned.

The kil has been built primarily for research work in seasoning on a semi-commercial scale, and in its present form will not be able to supply a heavy demand.

## Kiln Drying Research of Unmarketable North Queensland Timbers.

In December last a meeting of representatives of North Queensland timber interests was held at Atherton to discuss the proposed formation of a company to kiln dry the common secondary woods of the north and export the products to the southern States.

The scheme seemed to indicate a way out of the present state of the industry by cutting, grading, and seasoning on co-operative lines.

The Queensland Forest Service was represented by the Chairman of the Board.

It was estimated that a large volume of second grade timber, particularly Baltic Pine, was used annually in the south, and the basic idea was to secure some of this business for Tableland mills by utilising our secondary woods, the estimated available stand of which on selections is $1,000,000,000$ super. ft.

It was planned to kiln dry and dress the timber before placing it on the market, the price at Melbourne being estimated at not less than 38s. per 100 super. ft.

On the Board's instructions the Forest Economist proceeded to Atherton in January to meet the promoters of the company, and to assist the committee in the launching of the project.

Originally it had been estimated that a drying schedule of seven days would be sufficient, but on investigation by the Forest Economist it was found that a drying period of fourteen days would be required.

The Sturtevant Kiln, owned by Mr. J. M. Johnson, was used for the drying tests, and an experimental batch of 40,000 super. ft. of lumber was treated.

The Government assisted in the work by contributing $£ 250$ towards the cost of the experiment.

The experiments proved that the following species, of which there are hundreds of millions of superficial feet available in the north, can be successfully kiln dried :-

Red Tulip Oak (Tarrietia peralata) ;
White Ash (Flindersia pubescens) ;
Rose or Flooded Gum (Eucalyptus saligna) ;
Red Touriga or Calophyllum' (Calophyllum costatum) ;
Silver Quandong (Elcoocarpus grandis);
Satin Sycamore (Ceratopetalum virchowii);
Grey Sassafras (Daphnandra spp.) ;
Red Carrobean (Sloanea australis).

The schedule adopted was based on the behaviour of Red Tulip Oak which constituted 75 per cent. of the charge. Nevertheless, the other timbers came through in very fair condition.

Generally speaking, the results were better than were anticipated.
Red Touriga very well demonstrated its ease of drying, and for future calculations could be considered a "softwood." White Ash showed a tendency to spring, but this phenomenon was considered to have been assisted by the manner of sawing.

It was considered by the Forest Economist that by varying the schedule the period of drying for inch timber could be reduced to twelve days.

A number of very handsome pieces of furniture made from kiln dried timber of the above species are now exhibited in the Forest Products Showroom, George Street, Brisbane.

## AIR-SEASONING RESEARCH.

Research in the seasoning of Queensland timbers under normal atmospheric conditions has been in progress for several years past, and a considerable amount of information is now available to the public.

Data for each species under the following heads are being obtained :-
(1) Weight per cubic foot-
(a) Green; (b) Air-dry (12 per cent. moisture content).
(2) Moisture content of green timber.
(3) Shrinkage on green dimensions-
(a) In volume; (b) Radially; (c) Tangentially.
(4) Average time required to season utility sizes to 12 per cent. M.C. under good practice.
(5) Rate of drying over seasoning period.
(6) Amount of degrade unavoidable.
(7) Cost of logs on rail, girth, length, and class.
(8) Freight and cartage charges.
(9) Sawing cost.
(10) Return in sawn timber.
(11) Cost of stripping.
(12) Per cent. of degrade in logs greased and ungreased when felled.

During the year working plans were drawn up for work on three common hardwoods and three cabinetwoods, but owing to lack of space the project was held over.

General Specifications.
Investigations carried out at Brisbane, Maryborough, Imbil, Taromeo, and Yarraman have resulted in the drawing up of general specifications for the stacking of Pine and hardwood so that the best results in seasoning may be obtained under Southern Queensland conditions.

These are now available for the information of the timber industry, and copies may be had on application to this Department.

## Satinay (Syncarpia hillii).

. Considerable research has been carried out in the seasoning of this timber, with the result that it is now firmly established on the Brisbane market where formerly it was despised.

Large quantities of this timber are now being used for high class furniture and internal polished and parquet floors, while over 60,000 super. ft. have been specified for the new Queensland Government Building now under construction in Anzac Square.

As a result of numerous tests, detailed specifications are available for the seasoning of Satinay, together with figures as to the initial moisture content, rate of drying, weight per cubic foot, and shrinkage from the green to the seasoned state.

With good stacking practice and under good drying conditions it. has been demonstrated that Satinay can be seasoned with a minimum of degrade from the green' to a thoroughly air-dry condition in twelve months.

## Research on other Timbers.

Similar work is also being carried out on a number of other timbers and the records of the following species are now almost complete:-

> Rose Mahogany (Dysoxylon fraseranum) ;

1 Rose Walnut (Cryptocarya erythroxylon);
Saffron Heart (Halfordia scleroxyla) ; Rose Alder (Ackama quadrivalvis).

## Moisture Equilibrium Surveys.

In every locality there is a certain condition of dryness to which timber should be dried to obtain the best results in service in that locality. This varies according to the average relative humidity of the air in each area, and represents the condition of seasoned timber in equilibrium with the air.

Tests made on a number of thoroughly seasoned timber samples in several localities have indicated the following optimum condition for dryness :-

Brisbane, 12 per cent.
Atherton, 18 per cent.
Dalby, 10 per cent.
Timber with a moisture content higher than these figures for each centre must dry out until these levels are reached, and in doing so must shrink.

Air-seasoning methods at Atherton are not capable of drying timber to a state of dryness suitable for Brisbane conditions. Further drying must be done at Brisbane.

The Division of Forest Products of the Council for Scientific and Industrial Research has now arranged a series of tests which will compare the moisture content variations in timber in all the Australian capitals. The work in Brisbane will be carried out by the Forest Products Research Branch.

## WOOD TECHNOLOGY AND BOTANY.

## Timber Specimens Received for Identification and Report.

A great amount of work was done during the year to further the utilisation of Queensland timbers by the identification of wood samples submitted and the supplying of data thereon. In all, 142 wood samples, representing 73 different species, were identified and reported upon. Many were submitted for advice as to the suitability of the wood for various purposes, while others were forwarded by settlers, sawmillers, and others who desired to find a market for the woods.

In addition to the above; 579 standing poles were identified for an electric supply company.

This work has been the means of bringing the Forest Service into close and friendly co-operation with all timber interests, and permits the collection of much valuable data which could not otherwise be secured.

## Wood Classification.

Work in Australia.-A large range of authentic samples of timbers which may be easily confused has been collected and sent to the Council for Scientific and Industrial Research for detailed study.

A series of Ironbark timbers have also been obtained for study here.

Research in America.-Fifty samples of commercial Queensland timbers have been forwarded to Dr. H. P. Brown, Professor of Wood Technology, Syracuse University, who has kindly consented to make sections of these and forward photomicrographs to us showing the structure of the wood.

The majority of these have now been received, and have proved excellent for comparing the structure of the various timbers.

## Lectures on Timber Utilisation.

At the request of the Principal of the Central Technical College, six lectures on "Queensland Trees and Queensland Timbers," prepared from the files of the Wood Technology Section, were delivered before the day students of the Industrial High School, by the Officer in Charge of that section.

A summary of each lecture was supplied to the College and duplicater sheets of these were distributed to the classes. Timber samples' of the woods and sections of wood sawn in different ways to illustrate the structure of wood were supplied to the woodwork instructors.

Co-operation with the Scouts.
A lecture on "Queensland Trees and their Uses" was also given to the Senior Scouts at Scout Headquarters in Adelaide Street. This was well attended, and led to a much keener interest in Forestry and co-operation between the Scout Movement and the Forest Service.

## Publications and Papers.

A publication entitled Queensland Satinay, giving complete information on this valuable wood was issued for the use of the trade, and a thousand copies were printed.

A paper on "Queensland Timbers for Fishing Rods" was also mimeographed for trade purposes.

It is proposed to continue the work until sufficient papers are available to allow a new complete bulletin to be printed.

## Botanical Identifications.

The Forest Service is indebted to the Government Botanist for the determination of botanical material from 118 trees during the year. Of these all but two came from Forest Officers, the greatest number being from the Atherton Office and Survey Camps in North Queensland. This is usually the first stage in the utilisation of any timber, and the work is of great value to the Forest Service.

## ENTOMOLOGY AND MARINE ZOOLOGY.

## Control of Timber Borers in North Queensland.

Complaints received from the United States of America regarding damage by borers to Walnut Bean (Endiandra palmerstoni) logs shipped to that country for the manufacture of high class veneers led the Forest Service to undertake a series of experiments with a view to controlling these pests and giving more confidence to American buyers.

Two Forest Assistants were assigned to the work, and the assistance of the Entomology Branch of the Department of Agriculture was enlisted for the classification of the attacking insects.

The work was commenced in January 1930 on Reserve 191, Barron, when several Walnut Bean trees were felled, cut into short logs, and treated in various ways.

It was found that the Pin Hole Borers (Xyleborus sp.) attacked the green test logs within thirty minutes of the felling of the tree.

The attack by the larger Shot Hole Borers (Platypus sp.) followed within three days, and after an interval of twelve days these showed a decided preference for the under sides of the logs where the bark was still full of sap.
;. No new borers were seen after an interval of twenty days.
A number of inspections were made, and it was found that the creosote-kerosene mixture in the proportion of 1 to 8 sprayed on the logs was not nearly toxic enough, and acted only as a slight deterrent. The evidence so far secured points to the conclusion that logs hewn free of sapwood are not likely to be attacked, and that the greatest damage to unsapped logs is likely to occur in the hot wet months from January to March.

It is hoped to proceed with this work at the close of this year, when a detailed study of the life history of Xyleborus and Platypus will be undertaken in conjunction with the Government Entomologist.

## Marine Borer Investigations-Brisbane Waters.

The investigations of the activities of the marine borers working in Brisbane waters was continued during the year, the work being carried out in conjunction with the Australian Museum, Sydney, and the Sydney

Harbour Trust. These institutions are now preparing for publication all the data gathered at Sydney and Brisbane. The Brisbane Section will detail the results of experiments made here over a period of two years.

For this purpose a detailed report was prepared up to December 1930, accompanied by graphs showing the temperature, salinity, oxygen content, and acidity of the seawater at the different test stations, together with the rates of destruction of the various timbers tested, by different borers. Supplementary reports are being made at intervals of three months.

## Water Conditions and Attacking Agents.

The following table shows the results obtained at the various points of observation over a period of two years ended on lst December, 1930.
each.


In their respective localities the greatest damage is done to timber by the following, in order of importance :-Nausitoria, Bankia, Teredo, Near Bactronophorus, Sphoeroma, Limnoria.

Reiative Resistance of Timbers.-No timber has yet been observed which is proof against the attacks of all forms of marine borers. The evidence to date indicates that the Crustaceans prefer the softer woods, while the Mollusca are not at all influenced by this factor, some of the hardest woods being the first to fail.

Certain timbers, however, ranging from soft to moderately hard, show a considerable resistance to the attacks of Teredinidce, apparently owing to some peculiarity of the wood.

The toxic properties of these woods are now being studied by the Council for Scientific and Industrial Research.

The following table shows the relative resistance at Chelmer of the eight timbers tested:-

Timber (in Order of Resistance)-
Minimun Time between Setting of Test Piece and 100 per cent. Destruction.

1. Yellow Penda (Xanthostemon paschyspermus) . . 50 per cent. after 18 months set
2. Turpentine (Syncarpia laurifolia) .. .. .. 18 months.
3. Swamp Mahogany (Tristania suaveolens) . . 18 months.
4. Satinay (Syncarpia hillii) . . .. .. .. 15 months.
5. Brush Box (Tristania conferta) .. .. .. 12 months.
6. Red Irongum or Blue Gum (Eucalyptus tereticornis) 12 months.
7. Grey Ironbark (Eucalyptus paniculata) . . . . 12 months.
8. Oregon Pine (Pseudotsuga douglasii) . .. .. 9 months.

The results obtained at the other stations placed the timbers in the same order of value.

It has been clearly shown that the species of borer attacking has much more significance with regard to the rate of destruction than the timber used.

The species of borer attacking is apparently controlled by the water conditions, mainly with regard to salinity.

Experiments with poisonous surface coatings have not been successful in delaying the attacks of Teredince for more than a few months.

## WOOD CHEMISTRY.

## Wood Chemistry for Identification Purposes.

Considerable difficulty has been experienced in separating on structural characters many of the Queensland Pines and Eucalyptian hardwoods.

To enable a systematic study of the chemical properties of these woods to be made, a full range of 201 authentic wood samples from thirteen districts, representing twenty-two Eucalypts, five Pines, and fifteen other commercial woods were forwarded to the Division of Forest Products, Council for Scientific and Industrial Research, Melbourne. Work on these is proceeding.

## Investigation of Wood Taint in Butter.

Reports by Wood Taint Investigation Committee.-Work on this problem was continued during the year, and a third series of tests was carried out by the Wood Taint Investigation Committee. The Committee
was composed of representatives of the Dairy Branch of the Department of Agriculture, the Wood Technology Branch of the Forest Service, and the Butter Manufacturers.

The results of the second and third series of tests, which largely confirmed the earlier results, were contained in a report to the Minister for Agriculture issued in January, 1931.

These experiments were conducted with a view to confirming previous results, and ascertaining the value of various wrappings in preventing wood taint.

The report contains the following points approved by the Committee as a result of these tests :-
"(a) The defect referred to as wood taint in butter affects the surface only, usually penetrating not more than one-eighth of an inch;
(b) It occurs mostly along the corners and on the top surface;
(c) The defect is usually associated with air spaces or where air has contact with the butter;
(d) All species of timber may be associated with the defect;
(e) The seasoning of the wood does not prevent the incidence of the taint;
(f) Knotty timbers and green timber are generally no more associated with the defect than first-class clean Pine;
(g) Double papering does not prevent the taint, although it retards it ;
(h) Horizontal papering and top surface covering is a distinct advantage in retarding the incidence of the taint;
(i) No timber produces any more satisfactory results than properly seasoned Queensland Pine."

Although the causal agent of the taint has not yet been determined, the investigations have led practically to an elimination of the trouble on the grading floors through horizontal papering, which has been adopted by all factories in this State.

The Committee expressed the opinion that future work must proceed along special investigatory lines, and noted with pleasure the appointment of Mr. W. J. Wiley of the Council for Scientific and Industrial Research to devote his whole time to this research.

## PATHOLOGY.

## Blue Stain in Pine.

The serious degrade in logs and sawn timber of Hoop and Bunya Pine led to an investigation being commenced, with a view to eliminating this trouble, in 1929.

Sawmills at Brisbane, Maryborough, Imbil, Taromeo, and Yarraman were vișited and much data collected,

A report furnished in 1930 by the Wood Technology Section advocated the following action for correcting the trouble:-
(1) Reduce time between felling and milling to a minimum ;
(2) Avoid logging in the wet months (January to April) as far as possible ;
(3) Season the timber under rain-proof sheds under good seasoning practice.
The investigations were continued at Imbil and Yarraman during the past year and further data was collected.

The Queensland reference that Blue Stain penetrated the heartwood of Pine freely is quite unique, and arrangements have been made with the Division of Forest Products, Council for Scientific and Industrial Research, to make a detailed investigation of the fungus causing the trouble.

## AUSTRALIAN COMMONWEALTH STANDARDS ASSOCIATION.

Co-operation with the above Association in regard to timber standards was continued. During the year the Forest Economist represented the Department. A Queensland Panel Committee has been formed, its terms of reference being-
(1) To give consideration to the standard methods of testing timber in use in Great Britain and America with a view to their adoption, amended, if necessary, as Australian Standard Methods.
(2) To prepare, as far as available data. will allow, a standard grading. of timber.
(3) To review the data available and to submit a report as to further data necessary for the preparation of a standard of timber selection and for a more complete standard of grading.
(4) To prepare a standard range of sizes and tolerances for sawn timber.
(5) To deal with such other matters as may from time to time be approved by the Main Committee.

This Committee has achieved very good progress during the year, its main work being a consideration of standard definitions and terms, such as would be acceptable to. Queensland as well as to all other States. It is hoped finality will be reached shortly when consideration will be given to grading specifications for sawn timber and plywoods.

The work of this Committee must not be confused with the work of the Timber Advisory Committee. The latter has recommended for State-wide acceptance a set of grading rules for both sawn timber and plywoods, with the idea of stimulating export trade. The Standards Association, however, is bent upon standardising all branches of the timber industry throughout Australia, the guiding principle in its deliberations being the elimination of waste and reduction in overhead and carrying costs by the reduction of the number of stock sizes. The work of this Committee is of great interest to all architects, builders, and retail and wholesale timberyards. These interests are all represented.

It is no small task to co-ordinate the very divergent views of these several interests, a good deal of compromise being called for.

The Standards Association, however, has frequently met equally difficult situations in the past, and has always reached happy conclusions so that the present problem does not stagger the Committee.

## TIMBER UTILISATION CONFERENCE.

A conference of all timber interests called by the Hon. the Minister for Lands was held in Brisbane in May, to consider various means of stimulating the timber trade of Queensland.

A sub-committee, appointed by the conference to consider certain aspects of the problem, passed a number of resolutions which are contained in a report now being considered by Cabinet.
Grading Specifications for Sawn Timber and Plywoods for Export Timber.
A series of suggested grading rules and timber specifications for exportable timbers were drawn up by the Department and submitted to the Timber Conference in North Queensland.

The specifications had previously been discussed with leading architects and furniture manufacturers in Brisbane to secure the views of buyers.

Several objections were raised by the North Queensland Conference, and these were submitted to the General Conference held in Brisbane in May.

The Sub-committee, appointed by the Conference, later met representatives of the Forest Service, with the result that the rules were adopted in a form very similar to the original draft.

The rules provide:-

1. First class material only shall be exported.
2. Seasoning.-All timber exported shall be (a) seasoned, except in the case of certain listed species which may be sent; (b) shipping dry.
(a) Seasoned Timber must not have a moisture content exceeding 20 per cent. from Cairns, or 15 per cent. from other ports.
(b) Shipping Dry Timber must be air-dried for a period of four weeks.
3. Branding and Marking.--Every board exported shall be branded (a) with the species; (b) the maker's name or distinctive mark, which shall be registered.
4. Export Certificate.-
(a) Every shipment shall be covered by a Government certificate stating that the material conforms to standard and/or buyer's specification.

All timber exported under this certificate shall carry the official approved brand.
(b) No Government certificate shall be given to cover any shipment which does not conform to the standard and/or buyer's specification.
5. Fourteen cabinetwoods and fourteen hardwoods will be governed by the grading rules.

## PLYWOODS AND VENEERS.

## New Timbers in Use.

Considerable progress in the manufacture of plywoods and veneers from Queensland timbers has recently been made, and two firms (one in Brisbane and one in Cairns) are now actively engaged in the making of high class sliced veneers.

A number of new timbers have been found suitable for veneer work, and the following list shows all the Queensland woods now in use :-

> Timber.

1. Queensland Silkwood (Flindersia brayleyana).

High class figured sliced veneers and rotary cut veneers.
2. Queensland Silkwood ( $F$. pimenteliana)
ditto
3. Walnut Bean (Endiandra palmerstoni) . . .. ditto
4. Silky Oak (Cardwellia sublimis) .. .. .. ditto
5. Queensland Satinay (Syncarpia hillii) .. .. ditto
6. Rose Walnut. (Cryptocarya patentinervis).. .. ditto
7. Red Tulip Oak (Tarrietia peralata) . .. .. High class figured rotary cut
8. Red Touriga (Calophyllum costatum) ...
9. Rose Mahogany (Dysoxylon fraseranum) . . . ditto
10. Miva Mahogany (Dysoxylon muelleri) .. .. ditto

11, Miva Mahogany (Dysoxylon cerebriforme) . . ditto
12. Satin Sycamore (Ceratopetalum virchowii) .. ditto
13. White Ash (Flindersia pubescens) .. .. First class
14. White Ash (F. bourjotiana) .. .. .. ditto
15. Rose Alder (Ackama quadrivalvis) .. .. ditto
16. Hoop Pine (Araucaria cunninghamii) .. .. ditto
17. Kauri Pine (Agathis palmerstoni) . . .. .. ditto
18. Grey Satinash (Eugenia sp.) .. .. .. ditto
19. Grey Carrobean (Sloanea Wolsii) . . .. . . Rotary cut veneers, chiefly used for cores.
20. Grey Sassafras (Doryphora sassafras) .. .. ditto
21. White Quandong (Eloocarpus kirtonii) .. .. ditto
22. Cherry Birch (Schizomeria ovata) .. .. .. ditto
23. Ivorywood (Siphonodon australe) . . . . . . Special rare coloured veneers for
matched effects
24. Silver Aspen (Pleiococca wilcoxiana) .. .. ditto
25. Red Siris (Albizzia toona) . . .. .. . . ditto
26. Yellow Cheesewood (Sarcocephalus cordatus) . . ditto
27. White Hazelwood (Symplocos spicata) . . . . ditto
28. Tulip Plum (Pleiogynium solandri) .. .. ditto

## Grading Rules for Export.

Specifications for plywood for export purposes were drawn up and submitted to leading plywood manufacturers for comment. The specifications were approved by all concerned with practically no alteration, and were afterward submitted to the Timber Utilisation Conference and confirmed by the Sub-committee.

The specifications, which are based on the latest British and American practice, cover the following divisions:-

1. General rules ;
2. Standard face measurements ;
3. Standard gauges and number;
4. Approved timber for crossings and cores;
5. Definitions of terms ;
6. Grades and timber specifications.

Utilisation Research.
The work of testing Queensland timbers and extending their utilisation for new purposes has been strongly pressed forward during the year, and have been tested for the following:-

Battery separators;
Billiard cues;
Cricket bats and wickets;
Flooring (polished indoor) ;
Javelins;
Lead pencils;
Model aireraft ;
Parquetry;
Polo balls;
Printer's blocks;
Seaplane planking;
Smokers' pipes;
Tool handles ;
Vaulting poles;
Boxwood substitutes.

## MINOR FOREST PRODU̇CTS.

## Essential Oils.

Sandal Box or Budda (Eremophila mitchelli).-Supplies of the wood of this species from the Dalby, Inglewood, and Rockhampton districts have been forwarded to the Technological Museum, Sydney, to enable research work on the essential oil contained in it to be examined.

The results were considered so satisfactory that it was arranged through the same institution to supply a half-ton parcel to Messrs. Burnside, Limited, Melbourne.

This will enable a large scale distillation to be made, from which samples may be sent overseas to test the market for this product. . It is hoped to market the oil at a price comparable with that of the Sandalwood Oil from Western Australia.

Crows Ash (Flindersia australis).-Two cubic feet of this wood, distilled by Dr. T. G. H. Jones at the Queensland University, gave so low an oil yield that the expense of large scale distillations was not considered justified.

Wilga (Geijera parviflora).-For some years the Curator of the Technological Museum, Sydney, has been engaged upon the study of the essential oil yielded by the leaves of this species. Supplies of material have been received from various parts of Queensland and New South Wales for examination, and the interesting results are now published in the "Proceedings of the Royal Society of New South Wales."

River Gum (Eucalyptus rostrata).-A sample of the essential oil distilled from the leaves of the above tree at Hughenden, and forwarded to the Technological Museum, Sydney, was found to yield 5 per cent. to $\cdot 6$ per cent. of oil containing 70 per cent. Cinol with no Phellandrene. The oil meets with the requirements of the British and American Pharmacopœias, but, owing to the depressed market, is now worth only $9 \frac{1}{2} \mathrm{~d}$. to 10 d . per lb .

Lemon Scented Teatree (Leptospermum citratum).-Considerable interest has recently been displayed in this species, and a definite demand for the essential oil appears' to have been created through the work of the Technological Museum, Sydney ; although prices are not yet satisfactory, Queensland supplies of this species are not great, and in order to take advantage of markets it will be necessary to build up supplies by planting.

Silvical work is now being carried out in Queensland on this species, and supplies of seed have been forwarded for the establishment of plantations in other States. One pound of seed was sold for $£ 2$. It is proposed to make an experimental plot of ten acres in Queensland. Two hundred pounds of dried leaves supplied to the above institution from clippings from a hedge of this tree at the Beerwah Forest Station yielded on distillation 1.3 per cent. of essential oil.

Further work was also done on the following by-products of the forest :-

| Species. |  | Product Extracted. |  | Research Institution. |
| :--- | :--- | :--- | :--- | :--- | :--- |
| Melicope erythrococca | .. | Essential oil of leaves.. | Queensland University. |  |
| Sarcocephalus cordatus | .. | Alkaloid in bark | .. | Queensland University. |
| Duboisia myoporoides | .. | Alkaloid in leaves | .. | Messrs. T. and H. Jones, Ltd., |
| London. |  |  |  |  |

## FOREST SURVEYS.

Four fully equipped survey camps were in operation during the financial year, towards the close of which one in the Townsville district was being organised. Two small camps, one in the Brisbane Valley and one in the Brisbane and North Coast Working Plan Areas, were engaged throughout the year in compartment and Taungya Lease surveys. Smaller temporary camps were engaged on minor work at various periods.

The total expenditure for survey work amounted to $£ 4,292$ 0s. 2 d ., of which $£ 3,94517 \mathrm{~s}$. 10d. was charged to the Harvesting and Marketing Vote, $\mathfrak{f 3 1 1} 9 \mathrm{~s}$. 2d. charged to the Loan Reforestation Vote, and the balance ( $£ 34$ 13s. 2d.) to the Unemployment Relief Fund.

As a result (vide Appendices to this Report) 571,995 acres were inspected; 385,840 acres were assessed; 24,817 acres subjected to intensive contour and assessment survey; 4,731 acres were divided into compartments; 481 acres were surveyed for the purposes of Taungya Leasing; and 15,500 acres treated to type and soil survey.

Summary of mileage completed by the camps is given hereunder:-

|  |  |  | Miles |  |
| :---: | :---: | :---: | :---: | :---: |
| Compass and chain |  |  | 265 | 51 |
| Strip survey .. |  | . | 1,099 | 54 |
| Old boundaries |  | $\cdots$ | 57 | 35 |
| Levels |  |  | 31 | 67 |
| Track making .. |  | $\cdots$ | 9 | 40 |
| Exploratory investigation |  | $\cdots$ | 2,197 | 00 |

## Brisbane and Kilcoy Working Plan Areas.

Three Taungya Lease surveys were carried out in the above districts, details of which are given hereunder :-


In addition, a type and soil survey of approximately 15,500 acres of the Beerburrum land lying west of the Main Line was carried out by a Forest Assistant on vacation from the Australian Forestry School at Canberra.

A total of 80 miles 19 chains of strip survey was run during the survey.

## Brisbane Valley Working Plan Area.

Minor compartment and sub-compartment surveys were completed as occasion required by the resident staff, the principal work being a compartment survey on Tom Tom and Avoca Logging Areas on State Forest 299, parish of Avoca, a strip survey of State Forest 257, parishes of Emu Creek and Cooyar, and a Class 3 survey of the southern section of State Forest 283, parish of Colinton, which is now proceeding. During the first half of the financial year the camp was comprised of an overseer and one workman, but during the second half of the Report period the personnel was increased by the addition of one workman.

Details of work performed are set out hereunder :-


Class 3 survey, State Forest 283, Colinton (south section)-

|  |  |  |  | Miles. Chains. |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Boundary levels |  |  |  | 1 |  | 6 |
| Old boundaries |  |  | $\cdots$ | 11 |  | 5 |
| Strip survey |  |  |  | 16 | 0 |  |

About 2,500 acres completed.
Class 2 survey, State Forest 257, Cooyar and Emu CreekMiles. Chains.
Strip survey .. .. .. .. .. 52 32
Miscellaneous surveys-
Traverse of fences, soil types, subdivisional surveys, \&c.

## North Coast Working Plan Area.

A two-party camp, under the control of an acting sub-foreman operated in above Working Plan Area during the Report period. Work was confined almost exclusively to Taungya Lease surveys until December, when a Class 3 survey of State Forest 627, Goomboorian, was commenced. This was completed by the 20 th April, and after surveying Taungya Leases on State Forest 628, Goomboorian, camp was transferred on 28th May to Timber Reserve 242, Widgee, and instructed to carry out a Class 3 survey of same. This work was proceeding at the end of the Report period.

Details of mileage are as follows :- -


Timber Reserve 242, Widgee (proceeding)-

| Compass and chain | . | . | . | 3 | 20 |
| :--- | :--- | :--- | :--- | :--- | :--- |
| Old boundaries | . | . | . | . | 3 |
| 69 |  |  |  |  |  |
| Levels (Tops Abney) | . | . | . | 2 | 75 |

A summary is given hereunder of details of work carried out on Taungya Lease surveys:-


## Kilkivan Working Plan Area.

Survey camp reopened on the 16th February at Manumbar, and Class 3 survey on State Forest 298, Gallangowan, was continued and finalised early in May. The adjoining State Forest 123, Manumbar, together with intervening Crown land were then dealt with by Class 3
survey ; camp being closed down on the 29th May, pending transfer to Cardwell. In all, about 9,067 acres were completed.


Mary Valley Working Plan Area.
No survey camp operated this year in the above district, but numerous sub-compartment surveys were carried out, particulars of which have been listed hereunder :-


In addition, an estimate was made of Portion 10v, Yabba, area 2,143 acres, by the overseer at Jimna; 9 miles 79 chains of strip survey being carried out.

## Dalby Working Plan Area.

Class 2 survey of Western Creek Pastoral Holding was commenced on the 30th April. This holding is situated in the parishes of Brigalow and Vignoles, and work was still proceeding at the end of the Report period; approximately 38,000 acres having been completed.

| Details of mileage :- |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Strip survey .. |  | .. | 111 |  |
| Old boundaries |  | . |  |  |
| Exploratory |  |  |  |  |

## Inglewood Working Plan Area.

Survey work on this area was restricted to amendments of boundaries of Compartments 6 and 19 to 22, on Timber Reserve 122, parish of Inglewood.

New lines run totalled 3 miles 58 chains.

## Roma Working Plan Area.

Class 2 surveys were continued on the Yuleba, Gideon, and Moraby Forests, whilst Prickly-pear Leases in the parishes of Tchanning, Tinowon,

Wallabella, Landor, and Trinidad were also dealt with. In addition, likely Cypress stands occurring on Grazing Farms and Holdings in the parishes of Combabula, Trinidad, Callitris, Bainbilla, Yalebone, Combarngo, Oberina, Simmie, Sollow, \&c., were investigated. For detailed list, see Appendix BB.

Camp operated around Yuleba until 19th January, when it was moved to Roma; Injune being made the base of operations.

On the 27th April camp was transferred to Millmerran in the Dalby Working Plan Area.


## Bundaberg Working Plan Area.

In September, a Class 2 Survey was made by the Forest Ranger and one man of vacant Crown land in the parish of Littabella. About 7,550 acres were dealt with, 26 miles of 40 -chain strips being run. It is desired to reserve this area on account of its suitability for growth of exotic softwoods.

## Atherton Working Plan Area.

Class 2 Survey of Timber Reserve 315, pärishes of Mona Mona and Dulanban, was continued. This work was in progress when camp closed down on the 20th December.

Work was not resumed in the New Year until the 7th April, the Dulanban area being completed by 11th May.

Camp was then transferred to State Forest 310, Gadgarra, where a Class 3 Survey is at present proceeding, about 2,000 acres having been dealt with by the end of Report period.

Details of mileage :-
T.R. 315, Mona Mona, \&c.- Miles. Chains.

Strip survey .. .. .. .. 104 00
Pack tracks .. .. .. .. . 800
Exploratory investigation . . . . .. 140 00
S.F. 310, Gadgarra-

Compass and chain ". .. .. 37
Strip survey .. .. .. .. 13 23
Old boundaries .. .. .. .. 30
Pack tracks .. .. .. .. 10
Exploratory investigation .. .. 20 00

## Cooktown Working Plan Area.

Class 2 Survey was continued on the Mount Amos country (Timber
Reserves 138 and 86, parishes of Monkhouse and Clerk and vacant Crown land) and operations continued until the 9 th of December, on which date
camp was closed down for the wet season. In this six-monthly period twenty-two days were lost owing to wet weather.

Early in April, Deputy Forester and Overseer left Cooktown for Laura, and from 15th to 28 th of that month they were engaged in inspectional work of the Ironwood stands in the parishes of Deighton, Macquarie, Olivevale, Tungun, Wolena, and Delingur.

On 29th April the Deputy Forester left Fairview and proceeded on a tour of inspection of the peninsula lands as far north as Lloyd's Bay, returning to Fairview on the 23rd May, having completed approximately 420 miles of exploratory work. Inspections of Ironwood areas were continued from the 25 th to the 31 st of May. In all, about 200 miles of exploratory investigation were covered during this inspection.

On the 4th of June full camp left Cooktown and was established at Mungumby Creek, in order to continue the Class 2 Survey of the Mount Amos Scrubs. On the 8th, however, heavy and continuous rain set in, and on the 13th camp was again closed, as there was every indication of bad weather. Camp had not reopened by the end of Report period.

Early in the year an inspection on behalf of the Queensland Pastoral Exchange Company was effected by the Deputy Forester, in order to obtain data on their behalf as regards type of country adjacent to Cooktown suitable for peanut growing. Copies of resultant report were forwarded to the Land Administration Board.


## Cardwell District.

Class 3 Survey on State Forest 344, Kirrana, was continued until the 20 th December, on which date camp was closed down. A total of 7,770 acres was broken up into eight logging areas, whilst one of these was stripped, estimated, and contoured. Difficulty of access and the precipitous nature of the area hamper survey work.

The camp operated in the Kilkivan District until the end of May, and work was recommenced at Kirrama on 10th June last.

| Details of mileage :- |  |  |  |  | Miles. | Chains. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | ---: | :---: |
| Compass and chain | .. | .. | .. | .. | 44 | 22 |  |
| Strip survey | . | . | .. | .. | .. | 14 | 15 |
| Levels .. | . | . | .. | .. | .. | 12 | 00 |
| Exploratory investigation | .. | .. | .. | 126 | 00 |  |  |

## Townsville Working Plan Area.

Late in June 1931 a Class 3 Survey camp was organised in the above district to deal with the timber resources on the Mount Spec lands, the present status of which is Timber Reserves 28 and 268, parishes of Hinchinbrook, Waterview, Blackfriars, and Holbourn. The fact of a main road now being constructed from Moongobulla Station considerably enhances the value of the timber stands, and the probable gazettal of a National Park will open up a health resort for the people of Townsville.

No actual field work was effected during Report period.

## TAUNGYA LEASES.

As at date of this Report there were 138 leases under the Taungya System in occupation, mostly in the North Coast District, 37 offered and not taken up, and 40 in process of timber clearing and preparation for offering next year.

## UTILISATION.

In accordance with Government policy, the sawmilling section of the Board's administration has been reduced to narrow limits, and made to conform more to the policy of the sawmilling and seasoning branches of the Timber Investigation Section of the South African Forest Department, at the same time linking up with work of the Australian Division of Forest Products of the Council for Scientific and Industrial Research through the Forest Economist's Branch of the Queensland Department. The extent of the reduction of the milling operation is illustrated by the decrease in $\log$ capacity, which for the old Yarraman and the Taromeo and Imbil plants totalled over $13,000,000$ super. ft. $\log$ per annum, whereas that of the new Yarraman mill is $4,000,000^{-}$super. ft. per annum, a reduction of $9,000,000$ super. ft.

An experimental seasoning plant hás been installed for the conduct of research in seasoning technique for Queensland woods. A reconditioning chamber is being added.

The Forest Economist carried out important milling studies at the Departmental mill at Yarraman in connection with the more precise determination of $\log$ classification and values. These studies formed the basis of the Board's recent recommendations for revised log price lists for the correct determination of stumpages.

Whilst an experimental and research attitude has been adopted by the Board, the conception of a strict profit and loss discipline has been maintained. The entire operation is made to bear the tax dues which would. be payable were the operation an ordinary private business. In this way the research aspects are given their true economic interpretation.

As was to be expected, the 1931 trade depression shows its effects in a net loss of $£ 3,131$, which has been made good from reserves, Treasury interest having been met in full.

The Board has followed conservative methods of accountancy, and in anticipation of falling prices has made itself secure by a heavy writing down of stocks. Its reserves are sufficient to carry it through a prolonged depression. The Treasury has been fully safeguarded.

## VISITORS' PLANTATIONS, IMBIL.

Empire Forestry Conference, 21st Seftember, 1928.
" And so in a far-away spot in Queensland will be perpetuated for many a year the names of foresters represcntative of nearly every part of our Empire."-(Professor Troup, Empire Forestry Journal, July 1929.)

(Odd numbers represent Hoop Pine ; even numbers Bunya Pine trees.)

Pardiamentary Sub-committee and Party, 6th May, 1930.


VISITORS' PLANTATIONS, IMBIL-continued.
Australian Forestry Conference, 2nd April, 1922.


## Appendices.

APPENDIX A.
Return of Timber cut on Crown Lands for Financial Year 1930-1931.


APPENDIX B.
Annual Cut-Pine, Financial Year ended 30th June, 1931.


APPENDIX C.
Revenue Collected under State Forests and Timber and Quarry Regulations for the Twelve Months ended 30th June, 1931.


APPENDIX 1).
Collections under the State Forest and Timber and Quarry Regulations from 1st January, 1924, to 30th June, 1931.

| Land Agents' Districts. | 1924 | 1st January, 1925, to 30 th June, 1925. | 1925-26. | 1926-27. | 1927-28. | 1928-29. | 1929-30. | 1930-31. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Southern Queensland .. | $\begin{array}{cc} \frac{f}{f} & \stackrel{s}{s} . \\ 316 \\ \hline \end{array}$ | $\begin{array}{cc} 162,920 & \text { s. } \\ \hline \end{array}$ | $317,7089_{9}^{f} \underset{2}{d .}$ | $\underset{320,559}{\substack{c}} \stackrel{\text { s. }}{\text { i }}$ | $\underset{279,821}{f} \stackrel{s}{i} \stackrel{a}{9}$ |  | $\underset{225,571}{ }{ }_{12}^{\frac{2}{2}} \underset{9}{d}$ |  |
| Aramac   <br> Atherton $\because$ $\because$ | 32,274 011 | $\begin{array}{rrr} 0 & 10 & 0 \\ 15,929 & 6 \end{array}$ | $\begin{array}{rr} 0 & 15 \\ 35,142 & 0 \\ 0 \end{array}$ |  | $\begin{array}{ccc} 0 & 15 & 0 \\ 56,477 & 2 \end{array}$ |  | $\begin{array}{r} 1619 \\ 74,939 \\ 12 \end{array}$ | $\begin{array}{rrr} 1 & 3 & 0 \\ 35,644 & 1 & 8 \end{array}$ |
| $\begin{aligned} & \text { Barcaldine } \\ & \substack{\text { Birdsville }} \end{aligned} \quad .$ | 13106 | 63151. | 13548 | 919 | 7642 | $\begin{array}{rrrr}142 & 0 & 9 \\ 0 & 4 & 0 \\ 18 & \\ 18\end{array}$ | 171 | 146187 |
| Blackall $\quad \because$ | $\begin{array}{lll}\dddot{8} & 3 & 3 \\ 2 & 16\end{array}$ | 29   <br> 0 2 0 <br> 0 4 0 | $\begin{array}{cccc}305 & 1 \\ 2 & 1 \\ 2 & 8 & 10\end{array}$ |  | 181818 710 |  | $\begin{array}{r}531710 \\ 7 \\ \hline 15\end{array}$ | $\begin{array}{ccc}88 & 3 & 3 \\ 3 & 13 & 0\end{array}$ |
| Bowia | 7509.4 | $154{ }^{12} 9$ | $45911{ }^{2} 1$ | $778{ }_{*} 11$ | $282{ }_{*} 4$ | 275* ${ }^{1} 12$ | 50013 - | 367 * 8 |
| Brisbane |  |  |  |  |  |  |  |  |
|  | 915 | $\begin{array}{llll}* & 6 & 8\end{array}$ | $0{ }^{*} 50$ | 615 | 610 | 74 | 10180 | 310 |
| Cairns | $\dagger$ |  | $\dagger$ | 6018 5 | $\dagger$ | $\dagger$ | 1 | $\dagger$ |
| Camoowe | 423 | $\begin{array}{lll} \\ 00 & 16 & 13 \\ 60\end{array}$ | 14031 | 788 | $110^{\circ} 1$ | $\ddot{9} 16$ | $39^{\circ} 711$ | $10 \ddot{4} 711$ |
| Charters Towers | 1,079 ${ }^{4} 80.1$ | 4984 | 1,499 ${ }^{14} 9$ | $9200^{0} 0$ | $\begin{array}{llll}902 & 6 & 5\end{array}$ | 1,684 13 | $\cdot 1,482{ }^{5}$ | 892510 |
| Chillagoe |  | ${ }^{0}{ }^{6}$ | ${ }^{0} 180$ | ${ }^{0} 100$ |  | 10319 | 34210 | 0 2 <br> 7  <br> 10  |
| Clermont | 1,801 168 | 8518 | 928  <br> 184 10 <br> 11  | 1471611 8711 | 348149 | 12719 | 4540 | ${ }_{847} 170$ |
| Cookurtown | ${ }_{90} 1518$ | $\begin{array}{lll} \\ 26 & 5 & 5 \\ & 5\end{array}$ | ${ }_{69} 681$ | 5750 |  |  | 4 2 <br> 18  | $\begin{array}{llll}3 & 11\end{array}$ |
| Croydon |  | ${ }_{0} 020$ | 4130 | 360 | 70 | 114 | 18 | 1130 |
| Cunnamulla | 2i 19 c | 6 9 | 22190 | 24311 | 2908 | 29. | 59. 1 | 90 |
| Dalby | * | 454182 | 1,042 18 | 1,155 3 | 84859 | 1,875 8 | 1,830 61 | 1,503 6 |
| Eidsvold Emerald $\because$ | $\because$ | $\because$ |  | 124114 | 162102 | 273 $\begin{array}{r}1 \\ 120 \\ 10 \\ \hline\end{array}$ | 14916 | $173^{*} 7$ |
| yndah | $242{ }^{7}{ }^{7} 8$ | \% $\begin{array}{r}610 \\ 11 \\ \hline\end{array}$ | $\begin{array}{lll}302 & 4 & 7 \\ -3 & 7 & 3\end{array}$ | $\begin{array}{lll} 281 & 9 & 11 \\ 0 & 18 \end{array}$ | $\begin{array}{r} 173 \\ 2 \end{array} \underset{2}{19} 8$ | $\begin{array}{rrrr}115 & 3 & 5 \\ 4 & 5 & 0\end{array}$ | $\begin{array}{r}11919 \\ 215 \\ \hline 15\end{array}$ |  |
| Georgetown Gladstone | $0_{*}{ }_{*} 119$ | ${ }_{*}^{3} 11{ }^{1}$ | ${ }^{\cdot 3} 783$ | $018 \quad 0$ | $2211$ | ${ }^{4} 505$ | ${ }_{*}^{2} 153$ | 2 8 <br> 2 3 <br> 9 9 |
| Goondiwindl | ${ }_{382} 100$ | ${ }^{267}{ }_{*} 14$ | ${ }^{324} 108$ | $3^{380}{ }_{*} 9$ | ${ }^{399}{ }_{*} 123$ | ${ }^{386} 4 \times 6$ | ${ }_{4}^{479} 13 \quad 2$ | ${ }_{*}^{108} 79$ |
| Herberton Hughenden | $661{ }^{\dagger} 31$ | $790{ }^{\dagger} \times 1.0$ | $541^{\dagger} 5$. |  | $555{ }^{\dagger} 8$ | 546 <br> 16 <br> 18 | $362{ }^{\dagger} 15$ 3 | $184{ }^{\dagger} 4$ |
| Ingham Inglewood | $\begin{array}{rrr}860 & 4 \\ 1,387 & 13 & 9\end{array}$ | $\begin{array}{lll} 161 & 1 & 5 \\ 272 & 9 \end{array}$ | $469 \quad 17.6$ | $\left.\begin{array}{lll} 343 & 11 & 9 \\ 417 & 13 & 5 \end{array} \right\rvert\,$ | $\begin{array}{lll} 280 & 5 & 1 \\ 330 & 6 & 11 \end{array}$ | $\begin{array}{lll} 509 & 16 \\ 425 & 13 & 0 \\ \hline 10 \end{array}$ | $\begin{array}{lll}381 & 6 & 8 \\ 826 & 3 & 4\end{array}$ | 287   <br> 319 $\mathbf{4}$ 6 |
| Innisfail | ${ }_{2,670}{ }_{*} 411$ | 1,467 ${ }_{*}^{1111}$ | $2,470{ }_{*}^{11} 4$ | ${ }_{271}^{*} 112$ | ${ }^{58} 1511$ | ${ }_{*}{ }^{15} 15$ | ${ }_{*}^{67} 138$ |  |
| ${ }_{\text {Ipswich }}$ | 1610 | 02 | 48 |  |  |  | .. |  |
| Jundah .. .. | 1336 | 1017 1 | 119 | 13 | 136 | 18 | 17 | 0 |
| na | .. | 283 | 8130 | 210 | 3180 | 04 | 15 | 240 |
| Longreach | 12317 | 1713 | 951411 | 908 | 28112 | 476 | 245 | 1217 |
| Mackay .. | 5,582 19 4 | 3,365 ${ }^{1}$ | 5,910 4 <br> 10 8 |  | 1,319 7 710 | 1,293 610 | 78 2 <br> 5  | 1,458 19 |
| Mackinlay $_{\text {Maryborough }} \ldots$ | ; | ${ }^{10}$ | ${ }_{*}{ }^{6} 6$ | ${ }_{*} 13$ |  |  |  |  |
| Maytown |  | $\begin{array}{lll}16 & 3 & 5\end{array}$ | . |  | . |  |  |  |
| Mitchell |  |  |  |  |  |  | 12 | $66{ }_{6}{ }^{6} 18$ |
| Mossman | $\cdots$ |  |  |  |  |  |  |  |
| Muttaburra | .. | $\begin{array}{llll}3 & 6 & 8\end{array}$ | 540 | 280 | 468 | 454 | 288 |  |
| nango | 1690 | 130 | 0150 |  |  |  |  |  |
| rmanton | 1690 | 130 | 0150 | ${ }^{5} 50$ | 3410 | .. | . |  |
| $\underset{\text { Proserpine }}{ }$ Pouglas $:$ | 05 | 018 | 4 5 0 <br> 15 5  | $\begin{array}{lll}1 & 0 & 0 \\ 1 & 4 & 0\end{array}$ | $\begin{array}{rrr}1013 & 0 \\ 183 & 0\end{array}$ | 25 50 | $\begin{array}{lll}0 & 9 & 0 \\ 3 & 5 & 0\end{array}$ | ${ }_{2} 5$ |
| Ravens Rockh | 3,695 ${ }^{8} 6$ |  |  |  |  |  |  |  |
| Roma $\quad \therefore$ | ${ }^{3} 383186$ | ${ }_{163} 1611$ | ${ }^{2,406} 111$ | '189 1711 | 5187103 | ${ }_{493} 210$ | ${ }_{519}{ }^{5}$ | 18814 |
| George | 31811 | 5516 | 91210 | 1431 | 145 | 21613 | 122174 | 74 |
| St. Lawrence | 46818 48 | $44218{ }^{7}$ |  | 48164 | 1300150 |  | $90{ }^{\circ} 87$ | 32611 |
| Stanthorpe | 152140 | 321711 | 13.76 |  |  | $\begin{array}{llll}0 & 5 & 0\end{array}$ | 178 |  |
| Stonehenge Surat | 517 | 015 | 2 0 <br> 4 6 | 09 | 076 | 076 |  |  |
| ambo |  |  |  |  |  |  |  |  |
| Taroom | ${ }^{4}$ | 9100 | 25111 |  | 251310 | 17196 | 631811 | 815 |
| Thargom |  |  | 1 4 <br> 488  <br> 13 10 |  |  | 0 09 $\mathbf{9}_{8} \mathbf{0}$ |  |  |
| ${ }_{\text {Torres }}^{\text {Towoomba }}$ | $\begin{array}{r}73 \\ \hline 1,02517 \\ \hline 1\end{array}$ | 6619 122 120 | $\begin{array}{r}2481310 \\ 1,464 \\ \hline 18\end{array}$ | 50  <br> 20  <br> 2,213 88 <br> 8  <br> 10  | 10213 680 9 | $\begin{array}{r}699 \\ 1,359 \\ \hline 8 \\ \hline\end{array}$ | $\begin{array}{r}38 \\ \hline 365 \\ 265 \\ \hline\end{array}$ | ${ }^{17}{ }^{16}$ |
| Townsville $\quad \because$ | 1,766 <br> 18 | $\begin{array}{lllll}1225 & 0 & 0 \\ 498 & 8\end{array}$ | 1,607 1411 | ${ }_{1,039}^{2,78}$ | 1,203 511 | 740180 | 53718 | 59814 |
| Warwick | * |  | * |  | * | * | * | * |
| $\underset{\text { Winton }}{\text { Windorah }} \quad \therefore$ | $\begin{array}{r}4 \\ 3 \\ 79 \\ \hline 10 \\ \hline\end{array}$ | 1 14 | 1346 | 415 | 29193 | $7 \ddot{8} 29$ | 42809 | $136^{\circ} 60$ |
| Totals | 371,454 119 | 190,538 010 | 375,704 6 11 | 400,465 1110 | 350,551 85 | 371,313 311 | 315,274 76 | 159,775 1510 |

*Included in Southern Qucensland collections.
$\dagger$ Included in Atherton collections.
$\ddagger$ Included in $\mathrm{I}_{\mathrm{pswich}}$ collections.

## APPENDIX E.

## Prices of Log Timber.

The following Schedule illustrates the fluctuations in the market price of logs during the year 1st July, 1930, to 30th June, 1931:-


## APPENDIX F.

Railway Timbers supplied during Financial Year 1930-31, under Forestry and Lumbering Operations.


APPENDIX G.
Expenditure, Year ended 30th June, 1931.

| Item. | From 1st July, 1930, to 30th June, 1931. |  |  |  | Totat | --Per Cent. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Revenue. | Loan. | Trust. | Relief. |  |  |
| Overhead Expenses- | £ | £ | £ | £ | £ | $\cdots$ |
| Salaries . . | 31,093 | $\cdots$ | $\cdots$ | . | $\cdots$ | $\cdots$ |
| Extra Living Allowances .- | 590 4.397 | $\cdots$ | $\cdots$ | 2 | $\cdots$ | $\cdots$ |
| Travelling and Incidentals .. | 4,397 | . | . | 2 | $\cdots$ |  |
|  | 36,080 | . | . | 2 | 36,082 | 22.8 |
| Reforestation .. .. | . | 24,397 | . | 16,339 | 40,736 | 25.8 |
| Timber Trading Operations- <br> . . Harvesting and Marketing (Log Timber), | .. | . | 64,440 | 845 | 65,285 | . |
| Lumbering (Hewn, Split, and Pole Timber) | . | . | 15,883 | . | 15,883 |  |
|  | .. | . | 80,323 | 845 | 81,168 | 51.4 |
| Totas | . | -• | . | . | 157,986 | $100 \cdot 0$ |

APPENDIX H.
Financial Statement, 1st January, 1904, to 30th June, 1931.


APPENDIX I.
Loan Expenditure-1st July, 1919, to 30th June, 1931.

| Year. |  |  |  |  |  |  | Amount Expended. | Revenue Surplus. | Per Cent. of Surphus reinvested. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| - |  |  |  |  |  |  | £ | £ |  |
| 1919-20 |  |  |  | $\cdots$ |  |  | 17,197 | 79,584 | 22 |
| 1920-21 | $\cdots$ | . . | - | . |  | $\cdots$ | 46,949 | 106,628 | 44 |
| July-Dec | er, 1921 | . |  | . |  | . | 18,794 | 32,631 | 57 |
| 1922 | . . | . . |  |  |  |  | 33,246 | 142,442 | 23 |
| 1923 | . | $\cdots$ |  | . | $\ldots$ | . | 44,134. | 148,048 | 30 |
| 1924 | - | - |  |  |  |  | 32,178 | 238,362 | 13 |
| January | , 1925 | . . | . | . | . | . | 16,795 | 117,123 | 14 |
| 1925-26 | . . | - |  |  | . |  | 42,006 | 195,140 | 21 |
| 1926-27 | . | . |  |  |  |  | 37,378 | 218,997 | 17 |
| 1927-28 | . | - |  |  |  |  | 30,995 | 208,477 | 15 |
| 1928-29 | * | - | . |  |  | . | 32,175 | 201,389 | 16 |
| 1929-30 | . |  | . |  |  | . | 29,833 | 157,425 | 19 |
| 1930-31 | . . | - | . |  |  | . | 24,397 | 57,703 | 42 |
| i |  | Total | $\cdots$ | -• | . | . | £406,077 | £1,903,949 | $21 \cdot 3$ |

NOTE.-The sum of $£ 5,459$ has been paid to the Treasury during the years 1927.31 in reduction of loan indebtedness, making the debit balance of Forestry Loan Vote at the Treasury on $30 \cdot 6-31$ to be $£ 400,018$

APPENDIX J.
Analysis of Expenditure from Loan Votes, 1st July, 1919, to 30th June, 1931.
Reforestation and Incidental Works-

ess Repayments:-

| - | . | $\cdots$ | - | . | -• | -* | 20 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| . | , | . | - | . . | . | . | 113 |
| . | - | - | - | -• | $\cdots$ | . | 83 |
| . . | . | - | - | . | . | - | 845 |
| . . | . . | . . | . | . | . | $\therefore$ | 1,436 |
| $\cdots$ | . | -• | -• | . | - |  | 2,908 |
| $\cdots$ | -• | $\cdots$ | -* | $\cdots$ | $\cdots$ | $\cdots$ | 54 |

Reforestation and Incidental WorksSale of building ... .. Sale of land and improvements Sale of material 113

Refund of survey. fees Rent 436

Other Works
Disposal of road material .. .. .. .. .. .. . . . . 54

## APPENDIX JI.

Analysis of Expenditure from Unemployment Relief Fund, 1 st July, 1930, to 30th June, 1931.

Summary of Loan Reforestation Expenditure, Year ended 30th June, 1931.

| Reserve. | Reforestation. |  |  |  | MinorSurveys. | Protection,Fire Fighting,clearing, $\&<$. | $\begin{gathered} \text { Maintenance } \\ \text { of capital } \\ \text { Improve- } \\ \text { ments. } \end{gathered}$ |  | $\underset{\substack{\text { Total of } \\ \text { Columns }}}{ }$ 2-9. | overhead expenses. |  |  |  |  | $\begin{gathered} \text { Total } \\ \text { Overhead. } \end{gathered}$ | $\xrightarrow{\text { Reserve }}$ Total. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Plantations. |  | $\begin{gathered} \text { Nursery } \\ \text { Marking and } \end{gathered}$ | $\begin{gathered} \text { Forest } \\ \text { Experiment. } \end{gathered}$ |  |  |  |  |  | $\begin{aligned} & \text { Stores, } \\ & \text { Fodde, } \\ & \text { Cardage. } \end{aligned}$ | Supervision, <br> Repairs, \&c | Wet Time. | Holidays and Leave. | $\begin{aligned} & \text { Workers } \\ & \text { Con } \end{aligned}$ |  |  |
| 1 | - 2 | 3 | 4 | 5 | 6 | - 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
|  | ¢ s. d. | \& s. $d$. | f s. $d$. | s. s. ${ }^{\text {d }} 1$ | £ s. d. | e s. d. | £ s. d. | \& s. $d$. | f s. d. | \& 8. | e s. d. | \& s. d | cs. ${ }^{\text {d }}$. | \& s. d. | E s. d. | \& s. d. |



[^0]$\qquad$
APPENDIX K-continued.

| Reser | Reforestation. |  |  |  | Surveys. | Protection,Fire Fighting,PratClearing, $\& c$. | $\begin{gathered} \text { Maintenance } \\ \substack{\text { of Capital } \\ \text { Improve. } \\ \text { ments. }} \\ \hline \end{gathered}$ | New Con-struction ofNurseries. Buildings, \& | $\begin{gathered} \text { Total of } \\ \text { Coldund } \\ \hline \text { olann } \end{gathered}$ | overtead Expenses. |  |  |  |  |  | ReserveTotal. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Plantations. | $\begin{aligned} & \text { Regatural } \\ & \text { Negenation. } \end{aligned}$ | $\begin{array}{\|c\|c\|} \hline \text { Nursery } \\ \text { Morkd } \\ \text { Mainting anance. } \end{array}$ | $\begin{gathered} \text { Forest } \\ \text { Experiment. } \end{gathered}$ |  |  |  |  |  | Stores, Tooder, Cartage | Supervision, <br> Repairs, \&cc. | Wet Time. | Holidays and Leave. | $\begin{gathered} \text { Workers' } \\ \text { Corto } \\ \text { Sation. } \end{gathered}$ | $\underset{\text { Overthead }}{\text { Total }}$ |  |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | - 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
|  | e s. d. | \& s. d. | £ s. $d$. | \& s. d. | £ s. d. | E s. d. | £ s. d. <br> alby wor | £ s. d. reing plan | $\begin{aligned} & c_{\&}^{\&} s . d . \\ & \text { AREA. } \end{aligned}$ | $\text { £ s. } d .$ | \& s. d. | ¢ $s$. | \& s. d. | \& s. ${ }^{\text {d }}$ | \& 8. | \& s. d. |
|  | $\because$ |  | $\because$ | $\left\|\begin{array}{ccc} 0 & 1 & 6 \\ 0 & \cdots & 9 \\ 2 & 7 & 7 \\ & 2 \\ \because & \\ \because & \end{array}\right\|$ | $6 \ddot{14} 8$ | $\begin{array}{rrr} 14 & 5 & 2 \\ 37 & 6 & 1 \\ 33 & 6 & 1 \\ 1 & 17 & 0 \\ 42 & 18 & 7 \\ 20 & 4 \\ 20 & \ddots & 0 \\ \hline \end{array}$ | $\begin{array}{ccc} 0 & 15 & 4 \\ 2 & 1 & 4 \\ 19 & 11 & 8 \\ 19 & 2 \\ \because: & \end{array}$ | $\left.\begin{array}{ccc} 6 & 5 & 2 \\ \because \\ \because i 5 & 4 \end{array} \right\rvert\,$ |  | $\begin{array}{rr} 18 & 19 \\ 45 & 3 \\ 10 & 9 \\ 10 & 9 \\ 21 & 0 \\ 79 & 7 \\ \hline 9 & 8 \\ 77 & 8 \\ 77 & 4 \\ \hline \end{array}$ |  |  |  | $17 \dddot{C}_{6} 6$ |  |  |
| Total | .. | 99604 | .. | 383 | 6148 | 149150 | 22182 | 806 | 1,986 1611 | 1937 | 26172 | 38610 | 64165 | 1766 | 340146 | 1,527 11 5 |



| 48 | 17 | 5 |
| ---: | ---: | ---: |
| 40 |  |  |
| 40 | 17 |  |
| 17 | 7 | 7 |

$\left|\begin{array}{c}\infty \\ 0 \\ 2 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0\end{array}\right|$

many peaks working plan area.
MARYBOROUGH worgtig plan area.








APPENDIX K-coñinüüd:

| Reserve. | reforestation. |  |  |  | $\begin{aligned} & \text { Minor } \\ & \text { Surveys. } \end{aligned}$ | Protection, Fire Fighting, Pear Clearing, \&c. | Maintenance of Capital Improvements. | New Construction of Nurseries. Buildings, \&c. | Total of Columns 2-9. | Overhead Exprnses. |  |  |  |  | $\begin{gathered} \text { Total } \\ \text { Overhead. } \end{gathered}$ | $\begin{aligned} & \text { Reserve } \\ & \text { Total. } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Plantations. | Natural | Nursery Working and Maintenance. | Forest Experiment. |  |  |  |  |  | Stores, Cartage. | Supervision, Repairs, \&c. | Wet Time. | Holidays and Leave. | Workers' Compensation. |  |  |
| 1 | 2 | 3. | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
|  | £ s. $\quad$ d. | \& s. d. | £ s. d. | $\pm$ s. $d$. | £ s. ${ }^{\text {d }}$. | e s. d. | £ s. d. | £ 8. d. | ¢ s. $d$. | £ s. ${ }^{\text {d }}$. | \& s. d. | f s. d. | £ s. d. | £ s. $d$. | £ s. $d$. | f s. d. |


-VGYV NVTA ЮNIYYOM NOLCNVHYOOX


APMPENDIX Kí.
Summary of Expenditure-Silvical Works-Unemployment Reilief Fund-Year ended 30th June, 1931.

| Reserve. | Reforbstatiox. |  |  |  | Stingrer | $\begin{aligned} & \text { Pritection- } \\ & \text { Priterifig, } \\ & \hline \text { Pear } \\ & \text { detering } \end{aligned}$ |  |  |  | оөxrhaid Expesses. |  |  | Reserve |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Plantations. | Regatural | $\begin{array}{\|c\|c\|c\|c\|c\|c\|c\|r\|} \substack{\text { Wurfing } \\ \text { Hainfinance. }} \end{array}$ | Experiments. |  |  |  |  |  |  | Holiday. |  |  |
| 1 | 2 | 3 | 4 | 5 | ${ }^{6}$ | 7 | ${ }^{8}$ | 9 | 10 | ${ }^{11}$ | ${ }^{12}$ | ${ }^{13}$ | 14 |
|  | $\pm 8$. | \& s. d. | s s. d. | s. d. | \& s.d. | ¢ s. d. | s s. ${ }^{\text {d. }}$ | x s.d. | \& s. d. | ${ }^{\text {a }}$ s. d. | $\pm$ s. ${ }^{\text {d }}$. | \& s.d. | ${ }^{\text {¢ }}$ s. |


 dalby working plan area.

|  | 8 | 3 | 8 | 4 | 9 | I |  | 91 |  |  | 01 | 862'L | 0 | OL |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Ot 8 LL 0cc |  |  |  | 4 | 9 | I |  |  | - | ¢ |  |  |  |  |
|  |  | 9 |  |  |  | $\because$ |  | 9 |  |  | c |  |  |  |
| $0 \pm$ ¢ |  |  | . |  |  | $\because$ |  | 6 | . |  | $\stackrel{\text { c }}{ \pm}$ |  |  |  |
|  |  |  |  |  |  |  |  |  | $\ldots$ |  | ${ }_{81}^{81}$ |  | 0 |  | Fraser island working plan area.

FRASER ISLAN
$\cdots$
INGLEWOOD WORKING PLAN AREA.



$\qquad$
.



$\because:=$
:: : : : : : : "
: : : : : : :
:
: : : :


Total.

APPENDIX KI-continued.


APPENDIX L.
Areas Placed under Plantations. (Exclusive of Areas Refilled.)


APPENDIX M.
Areas Treated for Natural Regeneration.


APPENDIX M—continued.
Area Treated for Natural Regeneration-continued.

| Working Plan Area. | Reserve. | Area Trbated (Acres). |  |  |  |  |  |  |  |  | Totalarea Treated to 30th June1931 . |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Eucalypts. |  |  | Other Species. |  |  | Softwoods. |  |  |  |
|  |  | Treated, <br> 1930-31. | $\underset{\substack{\text { Treatment } \\ 1930-31 .}}{\text { First }}$ | Total at 30th June, 1931. | Treated, | Treatment .1930-31. | Total at 30th June 1931. | Treated, 193031 | $\begin{gathered} \text { First } \\ \text { Treatment. } \\ 1930-31 . \end{gathered}$ | Total at 30th June. 1931. |  |
| Atherton | 194 | $\cdots$ | $\cdots$ | 175 |  |  |  | . | . | $\ldots$ | 175 |
|  | 191 | . | . | .. | 9 | 9 | 53 | . | $\ldots$ | . | 53 |
|  | 310 | . | . | . | . . | .. | 128 | . | . | $\ldots$ | 128 |
|  | 418 | $\cdots$ | $\cdots$ | $\cdots$ | $\cdots$ | . | $42 \cdot 5$ | . | . |  | $42 \cdot 5$ |
|  | 452 | . | . |  |  | . | 20.5 | . | . |  | 20.5 |
|  | 254 | $\cdots$ | $\cdots$ | 339 | $\cdots$ | . | .. | $\cdots$ | $\cdots$ | . | 339. |
| Total | $\cdots$ | . | . | 514 | 9 | 9 | 244 | . | . | . | 758 |
| North Coast | 318 | 180 | 180 | 2,970 | $\cdots$ | . | $\ldots$ | $\cdots$ | $\ldots$ | $\ldots$ | 2,970 |
|  | 313 | . . | .. | 1,039 | . | . | . | . | . | $\cdots$ | 1,039 |
|  | 583 |  |  | 820 | $\cdots$ | . | $\cdots$ | . | . | $\cdots$ | 820 |
|  | 445 | 680 | 130 | 743 | . | . | . | . | $\ldots$ | . | 743 |
|  | 249 60 | 275 1,121 | 275 1,121 | 788 1,121 | $\cdots$ | $\cdots$ | $\cdots$ | . | $\cdots$ | $\ldots$ | 788 |
|  |  |  |  |  |  |  |  |  |  |  |  |
| Total | . | 2,256 | 1,706 | 7,481 | . | . | . | . | . | . | 7,481 |
| Grand Totals . . | . | 12,981 | 6,373 | 39,735 | 9 | 9 | 405 |  |  |  |  |
|  |  |  |  |  |  |  | 409 | 13,986 | 13,536 | 34,007.75 | 74,147.75 |

APPENDIX N.
Summary of Seed Collected in Year 1930-31.

| Species. |  |  |  |  |  |  | Amount. |  | Average Cost per ib. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  | Lb. | oz. |  |  |
| Asathis Palmerstoni | . |  | $\cdots$ |  |  | . |  |  |  |  |
| Araucaria Bidwilli ${ }_{\text {Araucar }} \ldots$ |  |  |  |  |  | . | 40 |  |  | 10 |
| Araucaria Cunninghamii.. | $\cdots$ |  | $\cdots$ |  |  |  | 8,957 | 0 |  |  |
| Beilschmedia Bancroftii Callitris glauda a |  |  |  |  |  |  | 117 | 0 |  |  |
| Callitris calcurata . ${ }^{\text {. }}$ |  |  | $\cdots$ |  |  | $\cdots$ | 1.03 | 4 | 8 | 8 |
| Casuarina inophlaia | $\because$ |  | $\cdots$ |  | $\because$ | $\because$ | 0 | 4 | 13 | 4 |
| Cryptocarya erythroxylon | $\ldots$ |  | $\cdots$ |  | $\cdots$ |  | 1 | 9 | 10 3 |  |
| Dysoxylon fraseranum | $\cdots$ |  | $\cdots$ |  | $\cdot$ |  | 3 | 5 |  | ${ }^{9}$ |
| Eucalyptus cloeziana | $\cdots$ |  | $\ldots$ |  | $\cdot$ | $\ldots$ | 1 |  |  | 1 |
| Eucalyptus microcorys | . |  |  |  | $\cdots$ |  | ${ }_{6}$ |  | 11 |  |
| Eucalyptus tereticornis | . |  |  |  |  |  | 60 | 0 |  |  |
| Flindersia pubescens |  |  |  |  |  | . |  | 0 |  | 0 |
| Leptospermum citratum | . |  |  |  |  | $\cdots$ | 2 | 13 |  |  |
| Stenocarpus sinuatus | . |  |  |  |  | $\cdots$ |  | 0 |  | 0 |
| Syncarpia Hillii .. | . | - | . | . | . | $\cdots$ | 6 | 0 |  | 10 |

APPENDIX 0.
Nursery Output for Year ended 30th June, 1931.

| Species. |  |  | Nutiber of Ptants sent to Plantations in Year 1930-31. |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | $\begin{aligned} & \text { R. } 299 . \\ & \text { Avoca. } \end{aligned}$ | R. 310 . <br> Gadgarra. | R. 191. <br> Barron. | R. 283. <br> Colinton. | R. 289. <br> Cooyar. | R. 263. <br> Pikedale. | R. 220. <br> Kilkivan. | $\text { R. } 355 .$ Kilkivan. | $\begin{aligned} & \text { R. } 135 . \\ & \text { Brooloo. } \end{aligned}$ | $\begin{gathered} \text { R. } 435 . \\ \text { Amamoor. } \end{gathered}$ | R. $509^{\circ}$ Pechey. | R. 561. Bribie. | Total. |
| Agathis Palmerstoni .. | $\cdots$ |  | 66,000 | 33 | 1,026 |  |  |  |  |  |  |  |  |  |  |
| Araucaria Cunninghamii | .. |  | , | 15,064 | 23,887 | 43,545 | 94,227 | $\cdots$ | 11,614 | 14,783 | 10.3808 | $\ddot{35,237}$ | $\cdots$ | $\cdots$ | 455,242 |
| Cedrele odorata mexicana |  |  | $\because$ | 1,374 <br> 2,131 <br> 1 | 589 <br> 175 |  |  |  |  |  | $\underset{\substack{2,955 \\ 21,675}}{ }$ | - $\begin{array}{r}617 \\ 2.600\end{array}$ | $\because$ | $\cdots$ | -5,535 |
| Cedrela toona.. | $\cdots$ | $\because$ | $\because$ | 1,166 | 923 |  |  | $\because$ |  |  | 21,675 | 2,600 |  |  | $\underset{\substack{26,581 \\ 2089}}{ }$ |
| Eucalyptus microcorys |  |  | $\cdots$ | 2,826 |  | 96 |  | $\cdots$ | .. |  |  | 4,900 |  | $\because$ | 7,822 |
| Flindersia Brayleyana. | $\because$ |  | $\cdots$ | 1,300 12,847 | 6,428 5,624 | 7,632 |  |  |  |  | ${ }_{16,650}^{184}$ |  |  | . | 15,544 |
| Crevillea robusta .. | $\cdots$ |  |  | 1,980 | 1,783 | 108,258 | 24,573 | $\because$ | 203 | .. | ${ }_{35,915}^{16,600}$ | 19,975 |  |  | - $\begin{array}{r}55,03 \\ 172,712\end{array}$ |
| Pinus caribea |  |  | $\because$ | .. |  |  |  | $\cdots$ |  |  |  |  | 65 | 2,950 | 3,526 |
| Pinus palustris | $\because$ |  | $\cdots$ | $\because$ | 89 | 1,526 | 500 |  |  | . |  | . | 88,148 | .. | 90,263 |
| Pinus radiata | $\because$ |  |  |  | 25 | 154 |  | 64,800 |  |  |  |  | 3875 41,491 |  | 375 106,470 |
| ${ }_{\text {Pinus toda }}{ }^{\text {Pisellaneous }}$. |  |  |  |  |  | 216 | 500 |  |  |  | 20,607 | 17,130 | -75 | 4,490 | 43,018 |
| Miscellaneous | $\cdots$ |  |  | 3,487 | 2,996 |  | . | 2,530 | 77 |  | 5,021 |  | 701 |  | 14,812 |
| Totals | .. | . | 66,000 | 42,208 | 43,545 | 161,438 | 120,300 | 67,330 | 11,894 | 14,783 | 253,892 | 80,459 | 130,855 | 7,440 | 1,000,144 |

APPENDIX P.
Forest Service Nursery Stocks as at 30th June, 1931.

| Species. |  |  | if Number of Piants in ntrasray at- |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | $\begin{aligned} & \text { R. } 299 \\ & \text { Avoca. } \end{aligned}$ | $\begin{array}{r} \text { R. } 310 \\ \text { Gadgara. } \end{array}$ | $\text { R. } 191 .$ Barron. | $\text { R. } 135 .$ Brooloo. | $\begin{gathered} \text { R. } 435 . \\ \text { Amamoor. } \end{gathered}$ | $\begin{gathered} \text { R. } 124 . \\ \text { Glastonbury } \end{gathered}$ | $\begin{gathered} \text { R} \\ \text { Pivedivale. } \end{gathered}$ | $\begin{gathered} \text { R. } 283 \\ \text { Colinton. } \end{gathered}$ | $\begin{aligned} & \text { R. } 289 . \\ & \text { Coyar. } \end{aligned}$ | $\begin{gathered} \text { R. } \\ \text { Kilikis. } 35 . \end{gathered}$ | $\begin{gathered} \text { R. } 220 . \\ \text { Kikik ivan. } \end{gathered}$ | $\begin{gathered} \text { R. } 509 . \\ \text { Pechey. } \end{gathered}$ | $\begin{gathered} \text { R. } 561 . \\ \text { Bribie. } \end{gathered}$ | Total. |
| ${ }_{\text {Agathis Palmerstoni }}^{\text {Agaucaraia }}$ |  |  |  | ${ }^{22,070}$ | ${ }^{50,657}$ | ${ }_{523,395}^{6,300}$ |  | 9,000 |  |  |  |  |  |  | 5,000 | ${ }_{\substack{84,027 \\ 358,843 \\ \hline}}$ |
|  |  |  | $\stackrel{\text { 133,000 }}{ }$ | 33,459 | ${ }^{56,777}$ |  | $\xrightarrow{423,625}$ | 9,000 | 50 | 247900 | 537,800 | 27,661 | 63,316 |  |  | 2,358,843. |
| Cedrela mexicana | $\cdots$ |  | . | ${ }_{\text {c }}^{650}$ | $\xrightarrow{1,416}$ | ${ }_{6}^{700}$ | 2,000 | $\ldots$ | . |  | $\cdots$ | $\cdots$ | $\because$ |  |  | ${ }^{2,766}$ |
| Cedrela microcarpa |  |  |  | 1,000 | 120 88 88 | 2.600 | 2,000 | $\cdots$ |  |  |  | $\because$ | $\because$ |  |  | ${ }_{2,688}^{3,780}$ |
|  |  |  | .. |  |  | 8,000 | $\because$ | $\because$ | 2,000 | 1,500 | , | .. | .. | 6,000 | 9,000 | 26,500 |
| Flindersia Brayleyana Grevilea rousta | $\because$ |  | . | 24,670 ${ }_{69}$ | 3,586 | 4.485 | 3,000 | 25,000 |  | 3,000 | $\because$ | $\because$ | $\overbrace{28}$ | $\cdots$ | $\because$ | $\underset{\substack{28,839}}{2,286}$ |
|  | .. | $\therefore$ | $\because$ | 700 230 |  | 2200 |  |  | 1,200 5 5 | $\cdots$ | $\because$ | $\cdots$ | ${ }^{72}$ | $\because$ | $\therefore 2,500$ | 1,900 10,297 |
| $\underset{\text { Pinus }}{\substack{\text { luchuensis } \\ \text { Pimus monterumes }}} \because$ |  |  | $\because$ | 230 | ${ }^{195}$ | 2,200 | $\because$ | $\because$ | ${ }_{5}^{5,100}$ | $\because$ | $\because$ | $\because$ | 7 |  |  | ${ }^{10,297}{ }_{500}$ |
| Pimus palustris $\because$ |  | , | $\because$ | $\because$ |  |  |  | $\because$ | 16,000 |  | $\because$ | $\cdots$ | $\cdots$ | 8,000 | ${ }_{3} 30$ | ${ }^{24,330}$ |
|  | $\because$ |  | . | 4,250 | $\because$ | 870 | . | . | 106,000 | 2,950 | .. | $\cdots$ | .. | 101,700 | 5,000 | 219,700 |
| ${ }_{\text {Pinus }}^{\text {Pinus radiata ata }}$.. $\quad$. | $\because$ |  | $\because$ | $\because$ |  |  |  |  |  |  |  |  |  |  |  | $\xrightarrow{\substack{\text { 9,,000 }}}$ |
| Misceilianeous $\quad \because$ | .. |  | .. | 3,958 | 3,406 | 2,112 | $\because$ | .. | 14,316 | $\therefore 380$ |  |  | 36 | 478 | 3,346 | 28,052 |
| Totals | . |  | 133,000 | 91,086 | 116,696 | 551,842 | 428,725 | 34,000 | 191,166 | 255,950 | 537,800 | 27,66 | 63,709 | 115,978 | 25,776 | 2,879,409 |

APPENDIX Q .
Buildings, \&e.-Construction for Year ended 30th June, 1931.


APPENDIX R.
Buildings, \&c.-Maintenance for Year onded 30th June, 1931.


APPENDIX S.
Water Supply-Establishment for Year ended 30th June, 1931.

| Area. | Particulars. |  |
| :---: | :---: | :---: |
| Nil. |  | Cost. |

APPEṄDIX T.
Forest Paddocks-Establishments for Year ended 30th June, 1931.


APPENDIX U.
Forest Paddocks-Maintenance and Repairs for Year ended 30th June, 1931.


APPENDIX V.
Expenditure on Roads, Year ended 30th June, 1931.


## APPENDIX V.-continued.

Expenditure on Roads, Year ended 30th June, 1931.-continued.


APPENDIX W.
Forest Protection, Destruction of Noxious Plants, \&c., for Year ended 30th June, 1931.


APPENDIX X.
Forest Protection from Fire for Year ended 30th June, 1931.


APPENDIX X.-continued.
Forest Protection from Fire for Year ended 30th June, 1931-continued.


APPENDIX Y.
Summary of Forest Fire Reports, 1st July, 1930, to 30th June, 1931.

| Date. | Locality. | Cause and Origin. | Area Burned. | Estimated Damage. | Cost of Firefighting. | Remarks. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ! | BRISBANE WORKING PLAN AREA. |  |  |  |  |  |
| 31-12-30 | $\underset{\text { Bunya }}{\text { Compt. }} 11 \text {, S.F.R. } 69,$ | Fire appeared to come into Rescrve from camp fire lit on road skirting Reserve | 13 acres .. | No damage done excent ${ }_{\text {to small }} \mathbf{~ c o p p i c e ~ g r o w t h ~}$ | . | . |
| i | bundaberg working plan area. |  |  |  |  |  |
| - 12-12-30 | S.F.R. 169, St. Agnes | Unknown .. .. | 250 acres .. | Ten pine trees of sapling size damaged and few fewall destroyed | 1153 | . |
| 6-1-31 | Compt.L.A., TenningeringS.F.R. 1.69, St.S.F.R. 169, Chin Chin .. | Fire came into reserve from adjoining portions | 90 acres .. | Odd small seedling pines destroyed | 1119 | . |
| 6-1-31 |  | Fire came in from adjoining area | 100 acres | A few small seedling pines destroyed | . |  |
|  | dalby working plan area. |  |  |  |  |  |
| 13-15-11-30 | Private property adjoining S.F.R. 4, Braemar | Not known |  |  |  | Fires prevented by Forest Overseer and gang from entering State Forest |
|  | Kilcoy working plan area. |  |  |  |  |  |
| $\begin{gathered} 16-19-11-30 \\ 15-17-12-30 \\ \text { and } \\ 2-5-1-31 \end{gathered}$ | S.F.R. 137, Yabba $\quad$.Foxlowe L.A., S.F.R. 137,$\begin{gathered}\text { Yabba }\end{gathered}$ | Unknown | $\left\lvert\, \begin{array}{ll\|l} 30 \text { acres } & . & \begin{array}{c} \text { No damage ; only poor } \\ \text { forest } \\ \text { over } \end{array} \end{array} .\right. \text { country burnt } .$ |  | . | $\cdots$ |
|  |  | Incendiarism cause of first outbreak; second, a re-light from the first | 3 acres . . . | Two acres worked serub burnt. Twenty-flve pine trees scorched |  | Mr. Watt, of Jimna, by prompt action brought second outbreak under control on evening of 2nd January, 1931 |
|  |  | Mary valley | Y WORKING PL | AN AREA. |  |  |
| 31-12-30 | Compt. 6A, Branch Gully L.A., S.F.K. 256, Imbil | Smouldering fire in adjoining compt. (6๖) burnt off on previous day | 1 acre .. .. | $\left\|\begin{array}{c} \text { One acre of plantation } \\ \text { destroyed } \end{array}\right\|$ | . ${ }^{\text {a }}$ | $\because$ |
| 31-12-30 | $\text { J.P. No. 2, S.F.R. } 135 \text {, }$ | Smouldering stump fanned to flame by hot dry winds |  | No damage .. .. | . | .. |
| 13-1-31 | Coonangibber Creek S.F.R. 135, Brooluo | Clearing operation on Forestry road | - . | No damage .. ${ }^{\text {a }}$, |  |  |
|  |  | NORTH COASt working plan area. |  |  |  |  |
| 13-14-11-30 | S.F.R. 318, Maroochy .. | Sparks blew across into reserve from fire on portion 321, adjoining reserve, lighted to burn off felled scrub <br> * See below | 50 acres . .. |  | NiI .. .. .. | . | Messrs. A. Johnston and C. Osmond and Relicf Workman Ring assisted F.O. in fighting outbreak |
| 14-11-30 | A. T.. Derteau, Beerbur- |  |  |  | . |  |  |
| 15-11-30 | Country surrounding | Back-burning effective in protecting State Forest Unknown |  | ..    <br> Nil . .. .. <br> Practically <br> Area <br> burnt <br> all <br> untreated <br> practically    <br> country    | $\cdots$ |  |  |
| 15-11-30 | S.F.R. 318, Maroochy |  |  |  |  |  |  |
| 15-11-30 | Waraba, |  | 500 acres .. |  | - |  |  |
| 19-20-11-30 | $\begin{gathered} \text { Timber Reserve } 700, \\ \text { Gympie and Curra } \end{gathered}$ | Unknown .. .. |  |  |  |  |  |
| 21-11-30 | Compts. 8 and 9, S.F.R. 60, Waraba | Unknown .. | 80 acres | Nil .. .. .. | $\cdots$ |  |  |
| 22-23-11-30 | 60, waraba <br> S.F.R. 583, Kenilworth. . | Incendiarism suspected | 6 acres .. | No damage .. | . | Police inquiry held re origin of these fires. Police investigations tended to confirm ForestOverseer's suspicions that nearby residents had set fire to the grass so that their cattle, which graze on the by subsequent growth |  |
| 22-23-11-30 | S.E.R. 318, Marcochy .. | Incendiarism suspected .. | $8 \text { acres .. .. }$ | No dainage | $\cdots$ |  |  |
| 27-28-12-30 | Compts. 3 and 4, YandinaL.A. S.F.R.MaroochyGheerunla Falls L.A.,S.F.R. 445 , Kenilworth | Incendiarism suspected .. | 60 acres | No great amount of damage done | -• | $\cdots$ |  |
| 30-31-12-30 |  |  | 55 acres | Very little damage done | - | Fire subdued by lorest Officer before it had spread to protected regenerated area |  |
| 2-1-31 | Compts. 4 and 5, River L.A., S.F.R. 318, Maroochy Compts. 3, 4, 5, and 6, Yandina L.A., S.F.R. 318, Maroochy | Burn-off on adjacent area (portion 195V) <br> Incendiarism suspected .. | 170 acres .. | No damage .. .. | . |  |  |
| $\begin{aligned} & 3-1-31 \\ & \text { and } \\ & 4-1-31 \end{aligned}$ |  |  | 280 acres $\quad$. | Practically no damage .. | . | Only strenuous efforts on part of resident Forest Overseer prevented fire from spreading to other parts of Reserve |  |
| 4-9-1-31 |  | Unknown .. .. | 385 acres | No damage .. .. | $\cdots$ . |  |  |
|  | Compt. 7, S.F.R. 60, Waraba <br> Gheerulla South L.A., S.F.R. 445, Kenilworth | Fire came in from road adjoining Reserve | 140 acres. | All trees of desired specics up to height of 10 ft . burnt | $\cdots$ | . . |  |
| ${ }_{1}^{9-1-31}$ |  |  |  | Nil $\quad$. | . | . |  |
| 13-14-1-31 | $\begin{array}{\|ccc} \text { Compt, } & \text { 1, } & \text { S.F.R. } \\ \text { Waraba, } & 60, \\ \text { Compt. } & 6, & \text { S.F.R. } \\ \text { Waraba } \end{array}$ | Unknown | $\begin{array}{ll}28 \text { acres } & . \\ 36 \text { acres } & . .\end{array}$ | All ironbark trees from 6 in . to 15 in . high burnt | $\cdots$ |  |  |
| 13-14-1-31 |  | Unknown |  |  | - | . |  |
|  |  | ROCKHAMPTON WORKING Plan area. |  |  |  | Hardwood Reserve |  |
| 2-9-11-30 | $\mathcal{L}^{\text {T.R. 20, Maryvale }}$. | Unknown $\cdots$ $\cdots$ <br> .   | $\left\{\begin{array}{c} \text { Practically all } \\ \text { Reserve burnt } \\ \text { over } \end{array}\right.$ | $\left(\begin{array}{cc} \text { No extensive } & \text { damage. } \\ \text { No damage done to } \\ \text { plantation } \end{array}\right)$ | $\cdots$ |  |  |

[^1] tha country so as to provide grass for their cattle after rains.

APPENDIX $Z$.
General Protection for Year ended 30th June, 1931.


## APPENDIX AA.

Expenditure on Surveys-Financial Year, 1930-31.


## APPENDIX AA-continued.

Expenditure on Surveys-Financial Year, 1930-31-continued.


## APPENDIX BB.

Particulars of Forest Survey Work, Year ended 30th June, 1931.
Class 1.-Inspections of Vacant Crown Land and Timber Reserves.


Crass 2.-Assessment Surveys.


## APPENDIX BB-continued.

Particulars of Forest Survey Work, Year ended 30th June, 1931-continued.
Class 3.-Intensive Contour and Assessment Surveys.


| Compartment Surveys. |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

Type and Soil Survey.


Taungya Lease Surveys



## APPENDIX CC.

## Forest Reservations for the Year ended 30th June, 1931.

State Forests.-Seven new State Forests, with a total area of 57,693 acres, were proclaimed during the year, the largest areas being R. 344, Kirrama, Bankton, and Blencoe, 32,000 acres (Herberton Land Agent's District) ; R. 118, Dunmore, 17,400 acres (Toowoomba Land Agent's District) ; R. 139, Braemar, 5,088 acres, R. 98, Mahen, 1,400 acres, and R. 51, Malcolm, 940 acres (Dalby Land Agent's District).

National Parks.-Two new National Parks were proclaimed, these being R. 705, Fassifern, 4,120 acres (Ipswich Land Agent's District), and R. 477, Conondale, 640 acres (Brisbane Land Agent's District).

Provisional Reserves.-At 30th June, 1931, the number of 'Timber Reserves was 366 , as against 369 at 30 th June, 1930. Seven new areas with a total area of 102,455 acres were reserved, 23,234 acres of Crown land were added to existing Reserves, and 38,003 acres were converted into State Forests. Six areas, totalling 17,031 acres, were released for selection.

The largest Timber Reserves proclaimed during the year are as follows :R. 343, Glenbora, \&c. . . 90,500 acres (Ingham Land Agent's District). R. 141, Annan. .. .. 3,600 ", (Cooktown Land Agent's District). R. 127, Kerimbilla ... 2,410 ,, (Goondiwindi Land Agent's District). R. 124, Greenup .. .. 2,356 ,, (Inglewood Land Agent's District). R. 126, Barabanbel . . 1,830 ,, (Roma Land Agent's District). R. 509, Charlestown .. 1,367 ," (Nanango Land Agent's District).

30th June, 1930, to 30th June, 1931.
State Forests.


## Timber Reserves.




## APPENDIX DD.

State Forests, Timber Reserves, and National Parks as at 30th June, 1931.


At 30th June, 1931-


APPENDIX EE.
The Forest Area, 1900-31.

| Date. |  |  | No. | State Forests. | No. | National Parks. | No. | Timber Reserves | Total. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | Acres. |  | Acres. |  | Acres. | Acres. |
| 31st December, 1900 |  |  | $\cdots$ |  |  |  |  | 1,622,855 | 1,622,855 |
| 31st December, $1901 .$. | $\cdots$ |  |  |  |  |  |  | 2,219,177 | 2,219,177 |
| 31st December, 1902 |  |  |  |  |  |  |  | 3,124,160 | 3,124,160 |
| 31st December, 1903 |  |  |  |  |  |  |  | 3,518,520 | 3,518,520 |
| 31 st December, 1904 |  |  |  |  |  |  |  | 3,673,331 | 3,673,331 |
| 31st December, 1905 |  |  |  |  |  |  | $\cdots$ | 3,606,709 | 3,606,709 |
| 31st December, 1906 |  |  |  |  |  |  |  | 3,460,826 | 3,460,826 |
| 31st December, 1907 |  |  |  | 416,872 |  |  |  | 3,255,706 | 3,672,578 |
| 31 st December, 1908 |  |  | 15 | 793,097 | 5 | 23,175 |  | 3,019,919 | 3,836,191 |
| 31st December, 1909 |  |  | 18 | 809,697 | 7 | 26,645 |  | 2,981,111 | 3,817,353 |
| 31st December, 1911 | $\cdots$ |  | 24 | 819,937 | 7 | 26,645 |  | 2,868,337 | 3,714,919 |
| 31st December, 1912 |  |  | 25 | 855,037 | 7 | 26,645 |  | 3,211,855 | 4,093,537 |
| 31st Décember, 1913 | $\cdots$ |  | 25 | 886,137 | 7 | 26,645 |  | 3,195,688. | 4,108,470 |
| 31st December, 1914 | . |  | 37 | 962,557 | 8 | 26,751 | $\cdots$ | 3,076,159 | 4,065,467 |
| 31st December, 1915 | $\cdots$ |  | 52 | 1,003,733 | 9 | 73,751 |  | 2,998,851 | 4,076,335 |
| 31st Décember, 1916 |  |  | 54 | 1,006,829 | 9 | 73,751 |  | 2,887,646 | 3,968,226 |
| 31st December, 1917 | . |  | 64 | 1,069,134 | 9 | 73,751 |  | 2,804,967 | 3,947,852 |
| 31st December, 1918 | . |  | 69 | 1,121,900 | 14 | 73,980 |  | 2,671,139 | 3,867,019 |
| 30th June, 1919 | $\cdots$ |  | 71 | 1,151,500 | 14 | 73,980 |  | 2,559,717 | 3,785,197 |
| 30th June, 1920 | . |  | 84 | 1,260,832 | 14 | 73,980 |  | 2,583,450 | 3,918,262 |
| 30th June, 1921 | . |  | 100 | 1,273,830 | 15 | 74,316 |  | 2,679,091 | 4,027,237 |
| 31 st December, 1921 |  |  | 103 | 1,320,647 | 16 | 153,316 |  | 2,722,835 | 4,196,798 |
| 31st December, 1922 | . |  | 117 | 1,410,364 | 21 | 168,809 |  | 3,123,072 | 4,702,245 |
| 31st December, 1923 |  |  | 131 | 1,503,951 | 22 | 169,539 |  | 3,090,077 | 4,763,567 |
| 31st December, 1924 | $\cdots$ |  | 145 | 1,533,727 | 22 | 169,539 |  | 3,173,058 | 4,876,324 |
| 30th June, 1925 | $\cdots$ |  | 151 | 1,775,309 | 21 | 156,000 | 338 | 3,246,746 | 5,178,055 |
| 30th June, 1926 |  |  | 153 | 1,779,349 | 22 | 156,131 | 347 | 3,356,187 | 5,291,667 |
| 30th June, 1927 |  |  | 158 | 1,794,985 | 23 | 156,199 | 355 | 3,418,818 | 5,370,002 |
| 30th June, 1928 | . |  | 161 | 1,795,937 | 24 | 156,355 | 357 | 3,393,941 | 5,346,233 |
| 30th June, 1929 |  |  | 162 | 1,796.172 | 25 | 156,411 | 364 | 3,403,174 | 5,355,757 |
| 30th June, 1930 |  |  | 169 | 1,846,970 | 30 | 156,491 | 369 | 3,398,240 | 5,401,701 |
| 30th June, 1931 |  |  | 176 | 1,904,664. | 32 | 161,251 | 366. | 3,439,679 | 5,505,594 |

APPENDIX FF.
Special Leases Granted on State Forests and Timber Reserves, from 1st July, 1930, to 30th June, 1931.


APPENDIX FF-continued.
Special Leases Granted on State Forests and Timber Reserves from 1st July, 1930, to 30th June, 1931-continued.


APPENDIX HH.
AGGREGATE ACCOUNT:
QUEENSLAND FOREST SERVICE SAWMILLS AND TTMBER YARDS.
1930-31.
TRADING ACCOUNT.


## APPENDTX HH-continued.

AGGREGATE ACCOUNT-continued.
QUEENSLAND FOREST SERVICE SAWMLLLS AND TLMBER YARDS, 1930-31-continued. PROFIT AND LOSS ACCOUNT.



## E. H. F. SWAIN,

Chairman, Provisional Forestry Board.
S. V. Gardiner, A.F.I.A., Accountant.

Is and Yave have
I certify that the Books, Accounts, and Vouchers of the Forest Service Sawmills and Timber Yards have been examined $t_{0}$ 30th June, 1931, and that this Balance-sheet, together with the attached Trading and Profit and Loss Accounts, is correct, ad agrees therewith.
G. I. BEAL, Auditor-General.

Price, 2s.


[^0]:    BUNDABERG WORKING PLAN AREA.
    INGLEWOOD WORKING PLAN AREA.

[^1]:    Police * Beportean's representations to Minister regarding destruction by fire of 3 acres of his pineapples referred the general opinion of residents around Beerburrum that most of the fires are caused by cattlemen burning of

