# REPORT OF THE DHRECTOR OF FORESTS - FOR THE YEAR 1911. 

11

1
Department of Public Lands,
.....Forests Office,
Brisbane, 8th July, 1912.
Sir, -I have the honour to submit the following report for the twelve months ending 31st December, 1911.

## TEMPORARY TIMBER RESERVES. .

The area temporarily reserved at the end of the year was $2 ; 868,337$ acres as compared with 2. 813,328 acres at the end of the previous year. New areas to the extent of 155,864 acres were proclaimed, 87,675 acses were alienated, and 13,180 acres were re-gazetted tas State forests.

The most important of the new reserves is a large hardwood area of 128,000 acres near Blair Athol, in which first consideration is being given to the needs of the Railyay Department.

The alienation of reserves which are infested with prickly-pear will affect the future supplies of the western districts very seriously; and, in consequence, the result of the researches of the prickly-pear Commission is anxiously, awaited.

## STATE FORESTS AND NATIONAL PARKS.

The area of State forests and national parks is now 846,582 acres, showing an increase of 17,630 acres over the figures for the preceding year. Of the six new reserves proclaimed, the most important is one of 9,900 acres in the parish of Kenilworth, supposed to contain over $30,000,000$ feet of mature milling hardwond, chiefly blackbutt:

The setting apart of a sufficient area of permanent reserves is one of the first duties of the State in regard to forestry, and it is hoped that in future anore vigorous policy of permanent reservation will , be pursued.

## FOREST INSPECTIONS AND SURVEYS

The work of the Forestry Inspection Camp has been continued steadily throughout the year. Uring the two vears in which this work has been carried on, the topographical features of twenty-four reserves in the Gympie and Maryborough districts have been sketched and the stand of mature timber estimated. The total area examined amounts to approximately 260,000 acres, of which 52,000 acres have been recommended for alienation. Of the reinaining area 48,000 acres were already permanently reserved, 44,500 acres have been recommended for permanent reservation, and the rest is to be retained, temporarily at least. The reasons for the recommendation of such a small proportion for proclamation as State forests have been the absence of natural reproduction and the desire that land on which settlement is possible should not be locked up.

The successful regeneration of commercial timber trees in dense vine scrubs is a problem which the Forestry Branch will be required to solve when a sufficient staff is available, but for the present the existence of good mature cimber on land should be sufficient justification for permanently reserving it. The question of land settlement has been a more serious one, but if rough mountainous land is not to be retained for timber, then forestry must be confined to experimental tree-planting, which, though it may appeal to the popular mind, is not the branch of the work to which first consideration should be given.

The quantity of mature milling timber estimated to stand on the 208,000 acres which have been retained is: Hardwood, $100,000,000$ superficial feet; pine, 140,$000 ; 000$ feet. These estimates, besides taking no account of under-sized, and hollow, over-mature trees, do not include that large proportion of the timber which, though capable of being utilised, is not extracted by timber-getters and sawmillers. Moreover, they are probably conservative; but even after all due allowances have been made, these figures, obtained from some of the most heavily-timbered areas in Southern Queensland, should dispel the illusion that the reserves of the State contain, enormous supplies of timber: Nothing is more striking than the patchy nature of the growth in both forest and scrub.

Owing to the untimely death of the late Director, the forest surveys, for which provision was made on the Estimates for the first time, were not proceeded with during the year, but surveyors are now at work on the most important State forests. Forest surveys are irdispensable if the systematic and conservative working of our reserves is to be rendered possible.

## CROWN-TIMBER CUT AND REVENUE-RECEIVED

According to the returns furnished by the various district land offices, the quantity of Crowr timber on which royalty was paid during the year was approximately as follows:-Northerity of Crowr 2,260,000 supeificial feet; hoop and bunya pine, $38 ; 000,000$ superficial feet; cypress pine, $4,800,000$ superficial feet; cedar, 443,000 superficial feet; hardwood, $12,000,000$ superficial feet; other milling timbers, $1,850,000$ superficial feet; sleepers, 952,600 (containing over $20,000,000$ superficial feet). piles, girders, \&c:, $310 ; 000$ lineal feet; telegraph poles, mining timbers; \&c., 513,700 lineal feet; fuel,
17,600 cords.

Of the
feet, and Ipswich for $9,036,000$ feet. Nanango accounted for $12,214,000$ feet, Gympie for $9,120,000$ The
amounted to $£ 53,8408 \mathrm{~s}$. as compared with $£ 39,6454 \mathrm{~s}$. 3 d . for
This increase of $£ 14,1953 \mathrm{~s} .9 \mathrm{~d}$. is due to a certain extent to the higher royalties received and more effective supervision, but more particularly to the increased quantity of timber cut. It must not
be supposed that a large increase of royalty, however gratifying, necessarily denotes a progressive forestry policy. On the contrary, an increased revenue resulting from the over-cutting of reserves points to a failure to recognise a first principle of forestry.

The figures given above do not take into account the revenue received from timber sold :with the land.

## EXPEŇDITURE.

$\therefore 2930$ The salaries, allowances, and other expenses of the Forestry staff for the iyear amounted to $£ 2,930 \mathrm{0s} .4 \mathrm{~d}$., but this is no criterion of the annual expenditure, as the bulk of the timber work is performed by land commissioners, land agents; and land rangers.

## ROYALTY.

A comparison of the revenue received, with the quantity of timber cut, shows that the department is receiving a very low average price for the timber sold:

Owing partly to long haulage, but chiefly to lack of competition, the price of standing pine in the Gympie district has remained low, varying from 1s. to 1s. 6 d . per 100 superficial feet, but in some localities more satisfactory rates have been realised, the best being 4s. 1d. for pine in the Nanango district,

In the North as much as $£ 18 \mathrm{~s}$. 6d. has been obtained for standing cedar, and 3s. 7d. for kauri pine, but the price of the latter has averaged about 1 s . 3 d .

The royalty on hardwood has ranged generally from 6 d . to 1 s ., occasionally reaching 1 s .6 d . In this connection I would point out that the royalty paid for sleepers,' piles', and girders obtained by the Railway Department is absurdly low and quite insufficient to cover the expenditure necessary for efficient supervision and the carrying out of improvement operations.

## INTERSTATE CONFERENCE ON FORESTRY.

In November an Interstate Conference on Forestry was held in Sydney, and was attended by representatives from New South Wales, Victoria, South Australia,. Tasmania, and Queensland. The resolutions agreed to were of a fundamental and far-reaching character, and should act as a guide to the future development of forestry throughout Australia.

Special attention was drawid to the approaching shortage in the world's supply of softwood, the ever-increasing demand, and the consequent necessity for conserving the indigenous forests and establishing new ones. This is of particular importance to Queensland, on whose original pine-bearing areas very serious inroads have been made by selectors and timber-getters.

Strong emphasis was laid on the necessity for more effective fire protection and fire legislation. There is no greater enemy to the successful regeneration of forests than the bush fires which sweep through many of our reserves annually. Excessive waste of timber is responsible to a large extent for the fierceness of these conflagrations, but their primary cause is the common practice of firing the country to encourage the growth of early feed.. The time is not far distant when heavy penalties will need to. be prescribed for the illicit use of fire in timber reserves, which, needless to say, are not managed with a view to the production of grass.

The education of forest officers-so essential tc the development of forestry-is a subject to which the very earnest consideration of the Governments of all the Australian States should be given. Both Victoria and South Australia have already instituted courses of instruction, but this work could be carried out much more efficiently and economically at one central school, and on this point the members of the conference were unanimous.

## GENERAL.

Much has been 'written about the enormous supply of timber available in Queensland, but however applicable the numerous statements made may have been to the virgin forests of the State, it is becoming daily more apparent that the quantity of timber suitable for sawmilling purposes contained in the existing reserves is by no means large. Of the excellent quality of the indigenous hardwoods and softwoods there'can be no doubt, and this fact renders them worthy of more strenuous $\epsilon$ fiforts to perpetuate them. Unfortunately, many of the best timbered lands of the State were alienated before attention was turned to forest reservation, and, although the policy then pursued was a vigorous one, a considerable area of the reserves originally proclaimed have since been cut out and opened to selection or alienated with the timber standing thereon.

There is still an unceasing clamour for the opening of reserves, notwithstanding the fact that; as a general rule, the adjacent selected lands are capable of much greater development. Our timber reserves are now limited in many localities to rough, mountainous country, on which-cultivation - is impossible, but neverthelesis-they-are-eagerly sought after by selectors, either on account of the timber they carry or because of their temporary value for dairying purposes. It is a characteristic of denselytimbered country that the soil is rendered loose and porous and is enriched by the humus of centuries, but if for this reason the land is to be opened to selection, then the continued growth of timber is
impossible.

It must be borne in mind that the first requirements for the luxuriant growth of most of our indigenous timbers are a suitable degree of moisture and a well-drained, porous soil, and that it is the necessity for these conditions which limits. the real timber-bearing lands to parts of the coastal ranges and tablelands, in which localities the demand for land is keenest. In my opinion, however, Queensland has now passed the stage at which the natural forests of the State should be sacrificed in the interests allowed.

As evidence of the extent to which our natural timbers have been depleted; it is worthy of note that in the reserves of Southern Queensland mature Kauri, white beech, silky oak, and red cedar have

almost become trees of the past, while the quantity of mature hoop and bunya pine standing on the reserves has been estimated to amount to only $750,000,000$ superficial feet of milling timber. It is not pretended that this estimate gives anything more than an approximate idea of the extent of the available resources, but even, supposing that the figures should be doubled, it is obvious that for a young and growing country the supply is small.

The conservation of the hardwood resources is deserving of much more serious consideration than it has yet received, for, although open forests of eucalypts are plentiful enough, the areas carrying a dense stand of long, clean timber are distinctly limited, and it is on this latter clasis of country only thatwthe yield of timber is sufficient to warrant the expenditure of money on effective control and sylvicultural operations.

In regard to the management of timber reserves, there are two fundamental principles which have not as yet received attention in Queensland.

The practice of forestry is directed primarily towards the maintenance of a regular supply of timber, not for ten or twenty years, but for all time, and with that end in view it is necessary to set a limit to the quantity of timber annually removed from each reserve or collection of reserves, and thus prevent the early exhaustion of their resources.

It is commonly considered that the adoption of a minimum girth regulation is sufficient to safeguard a reserve against overcutting, but this is the case only when the reserve is well stocked with trees of all ages. In the virgin scrubs and forests of Queensland, as a general rule, the younger age classes are poorly represented, and as a result the removal of the mature timber ati an excessive rate is followed by a long period of comparative rest or not infrequently by alienation, because "the marketable timber having been removed, the reserve is no longer valuable for timber purposes and should be opened to selection."

The minimum girth regulation must be supported by a conserrative policy of effecting sales, and, moreover, to be of real value, the girth limit must be high. enough to prevent the felling of trees which are at the most bealthy and flourishing stage of their existence. For instance, a 60 -inch limit for hardwood, though applicable to the drier areas, is much too low for the humid localities between Landsborough and Gympie and on Fraser Island.

The overcutting of pine reserves is most marked in the Southern districts, where it is not uncommon to find several purchasers deriving supplies from a reserve which is capable of supporting only one mill permanently. Besides being in direct opposition to the aims of forestry, this is not in the interests of a permanent local sawmilling industry, for the early exhaustion of a reserve must be followed by the remoral of mills to the next most accessible area. The position is rapidly becoming nore complicated owing to the erection of new mills and to the fact that sawmillers and timber-getters who have exhausted private supplies are now turning their attention to Crown timber.

The determination of the annual cut permissible is a problem of some magnitude, depending as it does upon the rate of growth of forests and the distribution of trees of various ages, concerning which very little information is available in Queensland, but for the present it would suffice to adopt a very clementary system, under which the sale of timber could be regulated according to the area of a reserve instead of being governed by the applications of sawmillers and timber-getters. If the reserves of the State under conservative management are not capable of meeting the demand, then the remedy lies not in overcutting and prejudicing the future supplies, but in making more extensive reservations and eliminating the present deplorable waste. As yet the attempts to ensure the utilisation of so-called unsaleable timber have been unsuccessful, but the time should not be far distant when the class of timber now left to rot or burn. will be extracted.

The regeneration of the forests, or, in other words, the establishment of the young crop on areas evt over, is the second aspect of the work demanding immediate attention. This must be accomplished in Queensland, as in all countries where forestry is understood and practised, by methods which combine efficiency with the minimum of expenditure, and that is by assisting natural reproduction wherever possible.

It is frequently asserted that the reproductive powers of eucalypts are so much greater than those of the forest trees of other countries that the ordinary, sylvicultural precautions taken elsewhere to promote natural regeneration are not necessary here. This would be comforting were it not a fallacy and a very dangerous one. In reality, the natural reproduction of some of the most widely-spread trees of Europe is so good that, after the removal of the old crop according to recognised rules, the ground is left completely stocked with a fine growth of young timber. That similar results are not obtained here under the laissea faire system adopted is obvious to anyone who chooses to make an inspection of arcas which have been exploited, for, although patches of reproduction are met with which show that
with rational methods the regeneration of eucalyptus forests should not be difficult, the damage caused with rational methods the regeneration of eucalyptus forests should not be difficult, the damage caused by annual fires and the spread of wattle and other useless rubbish is most striking.

The natural production of hoop and kauri pine is a slow and somewhat urcertain process, though it is continually talking place both on the outward edge of the spreading sorubs and in the interior of old scrubs in which the inferior species are not too dense. The rate of growth of young pine under these conditions is slow, but can be accelerated by freeing the young stems from those which are suppressing them. The cost per acre of such improvement operations would not be great and would be justified by the results obtained, provided that the danger from fire could be reduced. Owing; however, to the extreme sensitiveness of pine to damage by fire, the carrying out of operations in reserves which are being worked is not advisable just yet, it being of much greater importance at the present stage to preserve from alienation all areas carrying young pine in quantity. It might be mentioned here that the unfortunate view that reserves from which all mature timber has been removed are no longer valuable, has been responsible for the loss to the State of a growth of young and middle-aged timber which can be replaced only by the expenditure of thousands of pounds and after the lapse of many years. It can scarcely be called sound policy from a forestry standpoint to open for selection land bearing timber from one to fifty years old, and then to have recourse to the planting of one or two year old seedlings.

There is a very wide-spread misapprehension throughout Australia that the value of the work performed by a Forestry Department is to be measired by the amount of money spent on nursery and pianting operations. This is due to the impression that in the European countries, in which forestry originated, replanting is the practice commonly adopted, whereas in reality the natural methods predominate. In certain localities, for reasons which need not be enumerated here, artificial methods are preferred to natural, but in such cases the saile of the mature crop, which may yield 100,000 feet of marketable timber to the acre, realises over $£ 100$, per acre, while replanting costs $£ 5$ or less. But ithe conditionsuin the natural forests of :Queensland are quite different. In the first place, our most valuable species do mrot occur naturally in pure forest, and consequently the stand per acre is.jcomfaratively small. Moreover, owing to the fastidious tastes, common to all young and thinly populated countries, and also to the cost of extraction, a large proportion of the timber is not considered to bo warketable, with the restilt that the revenue derived per acre may be anything from $£ 5$ downwards. Theoretically, the amount spent on the regeneration of an area should depend on the revenue expected from. the sale of the future crop, but as this would place too heavy a burden on the present generation, in practice the expenditare must be made commensurate with the present revenue. For this reason alone, the wholesaie replanting of the large areas cut out every year is not a question for serious consideration in Queensland at present-except, perhaps, in the case of a very valuable species like .cedar.

Afforestation, or the establishment of new forests on bare or sparsely timbered country, is a branch of the work which appeals iveriy strongly to the popular mind in Australia, to such an extent, in fact, as to obscure the real problems with which forestry primarily has to deal. It certainly is an aspect of the isubject which demands attention, but it must not be allowed to overshadow the more important question of the conservative treatment of our natural forests, from which it is quite distinct.

Forest planting is of importance to Queensland in that, with the rapid growth of the State, the natural pine slipplies will soön be found insifficient to meet the ever-increasing demands; and the question arises, therefore, as to the possibility of establishing coniferous forests which will supply the cheap softwoods: of the more distant future. With this end in view, a series of experimental plantations should bè institutediunder the control of a competent officer, and for this work no more suitable locality could be found than Fraser Island, where the climatic conditions are especially favourable and the area of unutilised-land is large.

Too much stress cannot be laid on the fact that the attention of the department has yet to be directed to the difficult problems of forestry, for the only work with which we have been concerned up tc the present has been the making or unmaking of reserves and the sale of timber. It does not seem to have been realised that all forests, when subjected to uncontrolled exploitation, annual fires, and grazing, mist deteriorate, and that this fact alone is in a great measure, responsible for the development of forestry, which aims at maintaining and subsequently increasing the productivercapacity of forests; lut this can be attained only by the expenditure: of money on upkeep and improvement. It is quite impossible to dissociate the sale of timber and control of cutting operations from the other operations of forestry, and at the same time to obtain satisfactory results; and, as I have pointed out in a recent report on the subject, the first. step towards the introduction and gradual development of forestry in (tueensland is the organisation of a forestry service.

In conclusion, $I$, wish to sacknowledge the calue of the enthusiastic services rendered by the members of the staff.

I have, \&c.,
N. W. JOLLY,

Director of Forests.
The Under Secretary for Lands, Brisbane.

TABLE No. 1.
Progress of the Sawmilling Industry from 1907 to $1911 . \dagger$

| $\cdots$ | 1907. | 1908. | 1909. | 1910. | 1913. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Number of sawmills in operation $\quad . . \bigcirc \quad . \quad \therefore \quad .$. | :155 | 175 | 186 | 181 | -218 |
| Number of hands employed $\ldots \ldots \ldots$ | 2,507 | -2,960 | 3,012 | 3,178 | 3,872 |
| Valué ofmachinery, plant, land, \&c. ... 犬 | 327.847 | 360, 181 | 381,080 | 412,347 | 482,723 |
| Soft woods cut... | 57:274,629 | 64,696,990 | 70,127,903 | 71,228,722 | 83,954,514 |
|  | 349,339 | 404,976 | 449,142 | 493,805 | 645,822 |
| Cedar cut ... ... ... .... ${ }^{\text {Feet }}$ | $\because 551,797$ | 1,125.866 | 1,142,287 | 650,325 | 685,027 |
|  | - $83.925,4140^{-}$ | -18,752 $\cdot 34,936,160$ | 19,009 $: 37,111,069$ | 10,497 $44,55,510$ | r 14,154 $54,255,94,1$ |
| Hardwood cut ... ... : ... .... \{Value, ¢ | -.220,484 | -241,6\%2 | -268,427 | -354,529 | . 438,197 |
| Planing, Moulding, \&c. . . . ... ${ }^{\text {c. }}$ ¢ | 53,760 | - 45,711 | 52; 257 | 56,412 | -68,425 |
| Value-ner 100 sup. feet*- | -s. ${ }^{\text {d }}$ d. | s. ${ }^{\text {d }}$. | s. $\quad d$. | s. $\cdot$ d. | s. $d$. |
| Softwoods .... | $12.2$ | 126 | 1210 | 1310 | 15.5 |
| Cedar .... Hardwood | $\begin{array}{r} 30 " 6 \\ -13 \quad 0 \end{array}$ | $\begin{array}{r}233 \\ \hline\end{array}$ | 33 14 | 320 | $414^{\circ}$ |
| Hardwood ..... | ${ }_{1} 13{ }^{0}$ | $\because 1310$ | 14.6 | 1511 | 162 |

[^0]No. 25.
Return of Timber Reseryes on 3 ist Decemper, 1911.

*Decreased by redúction in area.and cancellation of reserves.

No. 26.
Statr Forests and Nattonal Parks on 31st December, 1911.


No National Parks were proclaimed during 1911.

No. 28.
Revenue cnder the Timber and Quarbr Regulations from 1904 to 1911.


[^1]
[^0]:    * The prices are the average local prices foriall-classesfof the timberreferred to.. . $\uparrow$ Figures supplied by State Statistician.

[^1]:    * Now Barcaldine and Longreach

