

1900.

WESTERN AUSTRALIA.

ANNUAL REPORT

OF THE

WOODS AND FORESTS DEPARTMENT

FOR THE

Year ended 31st December, 1899,

BY

C. G. RICHARDSON,

ACTING FOR CONSERVATOR OF FORESTS.

Presented to both Houses of Parliament by His Excellency's Command.

[SECOND SESSION OF 1900.]

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To the Honourable George Throssell, M.L.A., Minister for Lands.

Woods and Forests Department,
Perth, 1st June, 1900.

SIR,

I have the honour to submit my Annual Report upon the Operations and Progress of the Woods and Forests Department during the year ended the 31st December, 1899.

I have the honour to be,

Sir,

Your obedient servant,

C. G. RICHARDSON,

Acting for Conservator of Forests.

WOODS AND FORESTS DEPARTMENT.

Report by the Acting Conservator of Forests.

SECTION I.

REVENUE AND EXPENDITURE.

1. The Woods and Forests Department was instituted in 1895, and in order to bring the whole matter up to date, and show at a glance the Revenue and Expenditure in connection with our forests since same were placed under a proper system of management, I beg to subjoin the following statement :—

STATEMENT OF REVENUE AND EXPENDITURE FROM 1st JANUARY, 1895, TO 31st DECEMBER, 1899.

| Year. | Revenue. | | | Expenditure. | | |
|---|----------|----|----|--------------|----|----|
| | £ | s. | d. | £ | s. | d. |
| 1st January, 1895, to 31st December, 1895 ... | 3,175 | 5 | 2 | 1,108 | 5 | 5 |
| " " 1896, " " 1896 ... | 4,838 | 11 | 2 | 2,020 | 11 | 5 |
| " " 1897, " " 1897 ... | 12,320 | 6 | 4 | 3,489 | 14 | 4 |
| " " 1898, " " 1898 ... | 30,150 | 6 | 3 | 3,356 | 5 | 7 |
| " " 1899, " " 1899 ... | 16,999 | 11 | 3 | 2,438 | 7 | 5 |
| Total | £67,484 | 0 | 2 | £12,413 | 4 | 2 |

2. The above, therefore, shows that to the end of 1899 the revenue derived from our forests has exceeded the expenditure by the large sum of £55,070 16s.

REVENUE AND EXPENDITURE FOR THE YEAR 1899.

3. The revenue of the Department for the year ended the 31st December, 1899, amounted to the sum of £16,999 11s. 3d., and was made up of rents of Special Timber Leases and Licenses, Timber Concessions, and various monthly Timber Licenses.

4. The total revenue for the year is considerably less than that of 1898, which amounted to £30,150 6s. 3d., and shows a decrease of £13,150 15s.

5. This reduction may be accounted for by the fact that during the financial year of 1898 a great boom in timber took place, and large areas of timber country were taken up simply for speculative purposes by company promoters, with the view of floating the properties on the London market. Their efforts in this direction having in many instances failed, and the promoters having only paid a small deposit, the applications were allowed to lapse, and consequently a shortage in the revenue is shown this year, as compared with last year.

6. The whole expenditure of the Department for the year under review amounted to £2,438 7s. 5d., being £917 18s. 2d. less than that of the calendar year ended 31st December, 1898.

SECTION II.

THE STAFF.

7. The Officers of the Department are as shown hereunder:—

Head Office :

C. G. Richardson, acting for Conservator of Forests.
F. U. Palmer, Clerk.
D. W. Arnold, Clerk and Messenger.

Forest Rangers :

S. Patterson, Chidlow's Well, E.R.
H. S. Brockman, Donnybrook.
J. J. Fitzgerald, Waroona, S.W.R.
J. H. Gregory, Northam.
E. Kelso, Coolgardie.

Nurseryman :

A. McFarlane, State Nursery, Drake's Brook.

Caretaker, Point Walter Reserve :

J. C. S. Deans.

8. It is with sincere regret that I have to record the death of the Conservator of Forests for the Colony, Mr. J. Ednie Brown, which took place unexpectedly, at his residence, Cottesloe, on the 26th October, 1899.

9. The news of his death came as a great blow to his many friends, and how numerous these were was amply proved by the large and representative gathering present at the North Fremantle Cemetery, on the 27th October, to pay him the last tribute of respect.

10. For many years he had been identified with all matters connected with Forestry in the Eastern Colonies, and his loss will be much felt by all those interested in the welfare and progress of silviculture throughout Australia.

11. Several other changes have occurred during the year in the staff of the Department, the late Mr. Wm. Calcutt being succeeded by Mr. F. U. Palmer; Mr. J. N. Cox, formerly Forest Ranger at Coolup, having resigned his position, Mr. J. J. Fitzgerald was appointed in his place; Mr. C. A. White, Forest Ranger at Coolgardie, having been retrenched, Mr. E. Kelso was appointed in his place.

12. Since the decease of the late Conservator of Forests, I think I may say that the work of the Department has been carried on for the last eight months in a satisfactory manner, and I desire to take this opportunity of placing on record my appreciation of the services rendered by the various officers carrying on the operations of the Department.

SECTION III.

THE PLANTING OPERATIONS OF THE DEPARTMENT.

A.—PINE PLANTATION, BUNBURY.

13. I am very pleased to be able to report that the re-planting last year of the Reserve set apart for the above purpose has, so far, been a great success, and have no reason to doubt but that the Pines have now firmly established themselves, and will not require further attention.

14. The young trees have made remarkable growth, being from 18 to 24 inches in height, and are in a healthy and vigorous condition. There have been very few failures in the plantation, owing, no doubt, to the great care and attention the plants received during the summer months.

15. I consider this plantation one of the most important experiments ever made in the Colony of Western Australia, and one that is likely to become a very valuable national asset.

16. The Cluster or Maritime Pine (*Pinus Pinaster*), forming the greatest proportion of trees in the plantation, is a handsome tree, closely resembling the Black Pine in general appearance, and attains a height of over a hundred feet. No tree of the Pine genus is better adapted than the Cluster Pine for growth as a crop along the sea-shore. In such situations it can withstand the blasting influences of the strongest sea-breezes, and in this respect is one of the most useful trees. This pine has been much used in France in covering immense tracts of barren sandy country, especially the "Landes," or wastes, situated to the south of Bordeaux, on the Gulf of Gascony. These wastes are composed of drifting sands and have been covered by thriving plantations of this tree, which are said to be very valuable, both for the timber they produce and on account of the resin and tar prepared from them, as well as for the shelter provided for agriculture.

17. The Maritime Pine is, at all stages of its growth, of a very branching and spreading character. When it is planted along the sea-shore, and has plenty of room to develop its branching habit, it therefore forms the best possible protection for the rearing of more valuable and less hardy trees, or the development of agriculture in the lee of this cover.

18. This Pine has been introduced with great success into Cape Colony, which possesses a climate similar to ours. Between 1825 and 1830, about seventy years ago, a small area near Genadendal was sown with Cluster Pine seed. From these trees the Cluster Pine has spread, self-sown, up the rocky face of the mountain and into the valley, presenting most picturesque and remarkable effects. None of these seventy-year-old pines now remain, though some of their large butts can still be seen.

19. No sight (says the Conservator of Forests, Cape Town) has so impressed me as this valley, which runs into the heart of the highlands for four or five miles, and which is clothed on both sides by natural woods of Cluster Pine, unsurpassed in beauty and in their lesson of potential forest wealth. A spot on the East side of the valley bore in 1881 only a scattered growth of pine, which was traversed in 1886 by a bush fire. Nevertheless, the whole of this area is now covered with a great growth of young self-sown pine.

20. On the West side of the valley the pine woods are intersected by winding paths, which it is necessary to clear from time to time, otherwise the young pines would soon obliterate them. Wherever any opening lets in a little light young seedlings make their appearance, exactly as in a Scotch Pine forest in Europe. The timber is used for

all the purposes that imported pine was used for, and is well suited for floors, joists, beams, etc.

21. It is well known that the pine timber supplies of the world are reaching a visible termination, and that in the future there will be a certain market for colonial pine wood. The present importation of pine wood to this colony must be a heavy one, as it amounted to £158,732 some years ago, and it is certain that the Cluster Pine, properly grown in dense plantations, would supply a great proportion of the present demand for soft wood.

22. At present we have the pine forests of the world to pick from, but at such low prices that they cannot last long, and I am sure therefore, that the people of the Colony will recognise the importance of the Bunbury Pine Plantation, not only as a future source of wealth to the country, but as an object lesson to all.

23. Every effort should, I think, be made to establish similar plantations at intervals amongst the barren sand hills of our coast line from Geraldton to Albany. The pines would self-sow themselves, as has been the case in Cape Colony, and in years to come would form one continuous stretch of forest representing untold wealth to the State.

24. It may be mentioned that further plantations are contemplated during the approaching season, which I am confident will be attended with similar success, for I have no doubt that this pine can be grown successfully on our sand dunes. I am glad to say that this object lesson has already proved valuable, as I know of some private individuals who intend planting pines on a fairly large scale this winter.

B.—PLANTING AT POINT WALTER RESERVE.

25. A commencement has been made in planting clumps of shade trees on this Reserve, and it is intended to continue the ornamentation of this popular pleasure resort year by year. Steps are being taken to erect a windmill and tanks, and as a water supply will thus be assured, there is no reason to doubt but that the results of the planting will be satisfactory.

26. This Reserve has natural features of much beauty, and possesses great capabilities for ornamentation by artificial means. It is one of the prettiest spots on our river, charmingly situated, commanding a view in the direction of Perth, and a beautiful stretch of water across Freshwater Bay to Claremont. In fact it would be hard to find in any part of Australasia a spot more admirably suited for picnicking or holiday-making, and every effort should be made, therefore, to enhance the value of its attractions by planting clumps of exotic trees, such as *Araucaria excelsa*, *Pinus insignis*, *Pinus Pinaster*, *Cupressus horizontalis*, *Cupressus macrocarpa*, etc., etc.

27. These trees, by their dark canopy, would form a pleasing contrast to the lighter greens of the indigenous foliage, and provide ample shade for the thousands of picnickers who visit the Reserve during the summer months. This planting could be effected at a very small cost, as only a limited number of trees would be put in, and these could be planted and attended to by the Caretaker.

C.—WATTLE PLANTATION, SPENCER'S BROOK.

28. Very great success has attended the Wattle culture in above locality. The seed was sown broadcast and germinated freely, and the plants, which have been thinned out, now form a permanent plantation of some 13,500 trees. This is a very good result,

and goes to show how easily our farmers might grow belts of this tannin-producing tree on those portions of their properties which are unfit for agricultural purposes.

29. In the Eastern Colonies, South Australia in particular, the Golden Wattle (*Acacia pycnantha*) has been largely planted and grown with great advantage and profit, and I have no doubt that the same might be done in this Colony if our farmers only knew the value of the tree.

30. This tree is of rapid growth, content with almost any kind of soil, and is also important for binding drifting sands. The bark is so rich in tannic acid that it readily sells in European markets. It is said to be fifty per cent. more valuable in tannin than the bark of the oak or larch, and realises fully one-half more per ton than anything grown in Great Britain.

31. The period of maturity may be put down at from seven to ten years, but the bark contains most tannin when the tree is between five and eight years old. An acre planted with this tree will yield five tons of bark in the seventh year. The wood, though not of large dimensions, is well adapted for staves, handles of various implements, and articles of turnery.

32. I am glad to say that a considerable number of inquiries have been made during the year *re* wattle culture, and hope that the efforts of this Department in the matter are beginning to bear fruit.

D.—SANDALWOOD PLANTATIONS.

33. The reserve at Meckering, which was set apart for the purpose of experimenting in the artificial conservation and propagation of Sandalwood, is, I am glad to say, making satisfactory progress. The situation has an Easterly aspect, and the soil is composed principally of a granite formation, which is conducive to the successful growth of the Sandalwood.

34. There is a considerable amount of young self-sown Sandalwood trees on this block, which are progressing favourably, the Sandalwood having regenerated itself by natural means. The artificially-sown nuts are also springing up in all stages of growth, and present a remarkably strong and healthy appearance.

35. This experiment is one that the public should regard with especial interest, as by the result of its treatment experience will be gained as to the best system of dealing with the large areas of Sandalwood throughout the Colony.

36. The plantation is really intended as an object lesson to settlers generally, and to, if possible, encourage them in planting the waste portions of their holdings with this valuable tree.

37. The Plantation at Pingelly, I am glad to say, now bids fair to be a success. The nuts planted by Mr. Forest Ranger Gregory, during the year under report, have germinated freely, and upon the greater portion of the block a very fair crop of seedlings is making its appearance. Some of the plants are, according to the latest reports, two and three feet high, in a healthy and vigorous condition, and present a fine appearance generally. The grass has been cleared from around the young plants, so as to prevent damage from fires.

38. No expense was incurred in connection with this plantation last year, as the work was all done by the Forest Ranger. A large supply of nuts has been gathered, and it is intended to plant all the blank spaces with these during the present winter.

39. With favourable seasons there is no reason why this block should not be made a typical Sandalwood Plantation, one which would be a valuable object lesson to the settlers of the district, and at the same time serve to regulate our efforts in the way of forming similar plantations in the future.

E.—PLANTING ON THE GOLDFIELDS.

40. With regard to *extensive planting* on the Goldfields, I have always held, in opposition to the views of the late Conservator, that this would be one of the most costly experiments the Government could undertake, and one which would in all probability result in repeated failure.

41. All we can do at present is to set apart such patches of good timber as still exist, for Timber Reserves, see that the young timber on them is protected, and also allow the timber within the boundaries of the State Forests to regenerate itself by natural means.

42. Of course experimental planting or sowing on a moderate scale could be indulged in at a small cost. This might be done even at the present time by establishing small patches of suitable trees, such as Sugar Gums (*Eucalyptus Corynocalyx*) within the boundaries of the various State Forests. This tree is one of the most valuable for planting in arid regions, and would no doubt in course of time spread self-sown over the surrounding country.

43. The Sugar Gum attains a height of 120 feet, produces remarkably dense strong timber less liable to warp than almost any of the other kinds of Eucalypts, and it would, therefore, be a valuable tree to introduce on our sparsely-timbered Goldfields, and provide excellent material for mining purposes.

44. The experimental planting of Date Palms round the various tanks, soaks, etc., on the Goldfields has so far, not proved very satisfactory. This was no doubt owing to want of a little care and attention during the early stages of their growth; but as it is hoped that the caretakers of the various tanks will in future be instructed to attend to such Palms as may be planted, there is little reason to anticipate any further failures.

45. Experience goes to show that the Date Palm can be easily grown even in the lower latitudes of this Colony. I, myself, know of several instances where the stones thrown out in the rubbish heap have germinated and developed into strong healthy plants. There is no reason to doubt, therefore, that the Palm can be successfully grown upon our Goldfields and the interior of the Colony.

46. We have about two hundred young Palms at the State Nursery, which it is intended to plant on the Goldfields, etc., during the coming season, and as this work can be effected by the Forest Ranger stationed at Coolgardie, little or no expense need be incurred.

47. The Date Palm, according to the late Baron Von Müller, bears fruit in sub-tropic Eastern Australia in particular abundance, and should be raised in the oases of the Australian desert million-fold. The trees he introduced into Central Australia commenced to bear fruit at the age of eight years, and passed unhurt through years of tremendous drought. The Palms planted by the late J. Ednie Brown at Hergott Springs, South Australia, have, according to a recent report of the Conservator of Forests, Adelaide, produced excellent fruit for six years running.

48. An inexpensive method of establishing the Palm in the interior of this Colony would be to supply prospecting parties with dates, the seeds of which could be

sown at the various camping places, etc. The Resident Magistrates and Wardens of the Northern portions of the Colony might also be supplied with small parcels of seeds to experiment with.

49. The experimental planting of the Carob Bean (*Ceratonia Siliqua*) on the Goldfields has been as unsuccessful as the Date planting, owing to the same causes, viz., the want of a little care and attention during the early stages of their growth. The planting was carried out under the direction of Mr. C. A. White, then ranger for the Coolgardie Goldfields, and a quantity of seed was sown round the various tanks, etc.

50. The Carob Tree is indigenous to the regions of the Eastern Mediterranean, attains a height of fifty feet, and thrives in very arid regions. The tree has been found to be remarkably fruitful in extra tropical East Australia, resisting drought in a marked degree, and producing fruit abundantly.

51. In some countries bordering on the Mediterranean, horses, cattle, and pigs are fed almost exclusively upon the pods. The flesh of sheep and pigs is greatly improved in flavour by this food, and its fattening properties are twice those of oil cake. Mr. Hamersley, of "Lockeridge House," Guildford, has a considerable number of these trees growing on his property, which for years have been bearing fruit in great abundance. He feeds pigs on the pods, and is, I understand, very pleased with the result.

52. It will be readily understood, therefore, that this tree would be a valuable addition to the sparse vegetation of our Goldfields, and I think every effort should be made to establish it there. Small clumps of this tree could be formed at various suitable places for a very small cost, as the work could be done by the Forest Ranger for the district, and I have no doubt it would eventually spread by natural self-sowing.

SECTION IV.

THE STATE NURSERY.

53. As has already been indicated in a previous report, the State Nursery is now permanently established at Drake's Brook, on the South-Western Railway Line. It is now looking very well and reflects great credit on the exertions of Mr. A. McFarlane, the foreman in charge, who has veritably changed the wilderness, in the shape of a Ti-tree swamp, into a smiling garden.

54. With the aid of a little money the Nursery could not only be made a most attractive spot, but an instructive one to the public generally. The soil and situation have been found eminently suited to an establishment of this kind, and the planting operations last year have been most successful, the stock of plants raised being of a large and varied character. Something like 163,000 plants were raised, of which a large proportion are now available for distribution.

55. Permanent plantations of Oak, Catalpa, and Pines were formed last season, to serve as object lessons to the public, and these will be treated according to silvicultural methods. In this connection I may mention that the Catalpa is a tree of so great value for its timber that it was one of the first exotics introduced by the late Conservator into Western Australia. It is of rapid growth in warm climates, attaining a height of about twenty feet in four years. When planted in dense plantation it makes splendid timber, with straight stems fully fifty feet to the first branch.

56. The wood is so durable that it lasts for an almost indefinite period; railway sleepers and platforms of this wood being almost indestructible. In America, railway sleepers are cut from this tree when it is only eight years old.

57. From seeds kindly supplied by the Forest and Water Society, Southern California, and the Inspector General of Forests, India, we have been enabled to add other valuable trees to the stock at the Nursery. Amongst these are the *Sequoia gigantea* (mammoth-tree of California) and the *Cedrus deodara*, of India; both of which may be successfully grown in the rich humid valleys of the South-West Division of the Colony.

58. The total cost of the maintenance of the Nursery only amounted to £74 2s. 4d. for the year, and is really very little for an establishment of the kind. The following is a list of the trees and ornamental shrubs raised last year:—

LIST OF TREES AND SHRUBS RAISED IN THE NURSERY LAST YEAR.

| Names of Plants. | | In Open Beds. | In Seed Boxes. | In Bamboo Tubes. | Open Rooted. | Raised in Pots. | Total. |
|--|-------------------------------|---------------|----------------|------------------|--------------|-----------------|------------------------|
| Botanical. | Vernacular. | | | | | | |
| <i>Pinus insignis</i> ... | Remarkable Pine ... | 15,400 | ... | ... | 8,520 | 238 | 66,996 in Open Beds. |
| Do. <i>pinaster</i> ... | Cluster do. ... | 28,300 | ... | ... | 6,500 | 308 | |
| Do. <i>halepensis</i> ... | Allepo do. ... | 18,000 | ... | ... | 3,540 | 104 | |
| Do. <i>canariensis</i> ... | Canary do. ... | 700 | ... | ... | 814 | 86 | |
| Do. <i>excelsa</i> ... | The Nepaul or Lofty Pine | 3,400 | ... | ... | ... | ... | |
| <i>Cedrus deodara</i> ... | Indian Cedar ... | 780 | ... | ... | ... | 150 | |
| <i>Cupressus stricta</i> ... | Upright Cypress ... | 416 | ... | ... | ... | 206 | |
| Do. <i>glauca</i> ... | The Cedar of Goa | ... | 113 | ... | ... | ... | |
| Do. <i>governana</i> ... | ... | ... | 200 | ... | ... | ... | |
| Do. <i>macrocarpa</i> ... | ... | ... | 514 | ... | ... | 564 | |
| Do. <i>stricta</i> ... | ... | ... | 240 | ... | ... | ... | |
| <i>Pinus larix</i> ... | ... | ... | 130 | ... | ... | ... | |
| Do. <i>sylvestris</i> ... | Scots Pine | ... | 34 | ... | ... | ... | |
| <i>Abies Douglasii</i> ... | The Douglas Fir ... | ... | 14 | ... | ... | ... | |
| <i>Picea puregeris</i> ... | ... | ... | 406 | ... | ... | ... | |
| <i>Ficus macrophylla</i> ... | Morton Bay Fig ... | ... | 860 | ... | ... | 280 | |
| Do. <i>Australis</i> ... | Small-leaved Fig ... | ... | 1,240 | ... | ... | 228 | |
| <i>Grevillea robusta</i> ... | The Silky Oak | ... | 766 | ... | ... | 932 | |
| <i>Phoenix Dactylifera</i> ... | Date Palm | ... | 430 | ... | ... | 96 | |
| <i>Ceratonia Siliqua</i> ... | Carob Bean | ... | 720 | ... | ... | 506 | |
| <i>Pittosporum undulatum</i> ... | Cheese Wood (New South Wales) | ... | 1,200 | ... | ... | 87 | |
| Do. <i>eugenvides</i> ... | ... | ... | 371 | ... | ... | ... | |
| Various seed sown in boxes and germinating | ... | ... | 4,000 | ... | ... | ... | |
| <i>Cupressus lawsoniana</i> ... | Lawson's Cypress | ... | 980 | ... | ... | 489 | |
| <i>Santalum Album</i> ... | Indian Sandalwood | ... | 400 | ... | ... | ... | |
| <i>Acacia baileyana</i> (New South Wales) | Silver Wattle | ... | ... | 640 | ... | 382 | |
| Do. <i>acumenata</i> ... | Raspberry Jam | ... | ... | 130 | ... | ... | |
| Do. <i>melanoxydon</i> ... | Blackwood Tree | ... | ... | 500 | ... | 108 | |
| Do. <i>pyncantha</i> ... | The Golden Wattle | ... | ... | 2,400 | ... | 180 | |
| Do. <i>decurrens</i> ... | The Black Wattle | ... | ... | 436 | ... | ... | |
| Do. <i>dealbata</i> ... | The Silver Wattle | ... | ... | 200 | ... | 100 | |
| | Sugar Gum | ... | ... | 300 | ... | ... | |
| <i>Robenia pseudacacia</i> ... | Locust acacia | ... | ... | ... | 3,921 | ... | |
| <i>Lygustrum lucidum</i> ... | Evergreen privet | ... | ... | ... | 240 | ... | |
| <i>Sterculia diversifolia</i> ... | Kurragong | ... | ... | ... | 2,500 | ... | |
| <i>Tamarisk gallica</i> ... | ... | ... | ... | ... | 3,613 | ... | |
| <i>Salix Viminalis</i> ... | Basket Willow | ... | ... | ... | 1,000 | ... | |
| | Golden do. | ... | ... | ... | 1,000 | ... | |
| <i>Morus Alba</i> ... | White Mulberry | ... | ... | ... | 430 | ... | |
| | | | | | | | 4,606 in Bamboo Tubes. |

LIST OF TREES AND SHRUBS RAISED IN THE NURSERY LAST YEAR—*continued.*

| Names of Plants. | | In Open Beds. | In Seed Boxes. | In Bamboo Tubes. | Open Rooted. | Raised in Pots. | Total. |
|--------------------------------------|--------------------------------|---------------|----------------|------------------|--------------|-----------------|------------------------|
| Botanical. | Vernacular. | | | | | | |
| Populus Alba ... | Silver Poplar ... | ... | ... | ... | 2,460 | | |
| Do. Pyramidalis ... | Upright Poplar ... | ... | ... | ... | 8,234 | | |
| Ulmus campestris ... | English Elm ... | ... | ... | ... | 146 | | |
| Catalpa speciosa ... | ... | ... | ... | ... | 3,884 | | |
| Melia Azedarach ... | White Cedar ... | ... | ... | ... | 4,178 | | |
| Platanus occidentalis ... | Plane Tree ... | ... | ... | ... | 980 | | |
| Ailantus Glandulosa ... | Tree of Heaven ... | ... | ... | ... | 964 | | |
| Fraxinus Europa ... | English Ash ... | ... | ... | ... | 104 | | |
| Do. Americana ... | Black Ash... .. | ... | ... | ... | 7,018 | | |
| Cedrela Australis ... | Red Cedar... .. | ... | ... | ... | 250 | ... | 60,296 Open Rooted. |
| Schinus Molle ... | Pepper Trees ... | ... | ... | ... | | 5,523 | |
| Euc. corynocalyx ... | Sugar Gum ... | ... | ... | ... | | 2,751 | |
| Do. Ficifolia ... | Red-flowering Gum ... | ... | ... | ... | | 440 | |
| Agonis flexiosa ... | Peppermint ... | ... | ... | ... | | 304 | |
| Acacia Arabica ... | ... | ... | ... | ... | | 102 | |
| Frenella Verucosa ... | Native Cypress Pine ... | ... | ... | ... | | 204 | |
| Do. aborea ... | ... | ... | ... | ... | | 186 | |
| Cupressus gaudalupinsis ... | ... | ... | ... | ... | | 76 | |
| Lagunaria Pattersonii ... | ... | ... | ... | ... | | 316 | |
| Laurus camphora ... | Camphor laurel ... | ... | ... | ... | | 230 | |
| Dracena Draco ... | Dragonblood tree... .. | ... | ... | ... | | 78 | |
| Passiflora edulis ... | Passion fruit ... | ... | ... | ... | | 160 | |
| Virgillia Capensis ... | ... | ... | ... | ... | | 160 | |
| Creepers—Shrubs and flowering plants | Kei-apple ... | ... | ... | ... | | 103 | |
| | ... | ... | ... | ... | | 1,200 | |
| | African silvertree... .. | ... | ... | ... | | 118 | |
| | Turpentine tree ... | ... | ... | ... | | 64 | |
| Sequoia gigantea ... | Mammoth tree of California ... | ... | ... | ... | | 276 | |
| Araucaria Excelsa ... | Norfolk Island pine ... | ... | ... | ... | | 1,254 | |
| | | | | | | | 18,589 Raised in Pots. |
| | | | | Grand Total | | | 163,105 |

59. The free distribution or sale of trees raised at a Government Nursery is a question which, although involving varied interests, should certainly deserve consideration. The local nurserymen are of course antagonistic to this being done, on the grounds that it affects their interests. Possibly, however, it may have the contrary effect, as it may encourage settlers in the formation of plantations and thus develop a taste for arboriculture. In any event it cannot injure them much, as they give little or no attention to the raising of forest trees.

60. In the Eastern Colonies I understand the free distribution of trees is looked upon as a matter of national importance, as it is now generally admitted that the clothing of a country with arboreous growth tends to improve the climate generally.

61. The trees disposed of last year were sold and distributed principally throughout the Goldfields and other sparsely-timbered portions of the Colony, and it is hoped that this action on the part of the Department will stimulate a taste for tree-planting on the fields generally.

62. The nurserymen will only supply trees at such a prohibitive price as simply debar the ordinary individual from planting, and, I think it wise policy, therefore, on the part of the Government to step in and offer trees free for the amelioration of the climatic conditions of the arid portions of the Colony.

63. The following statement shows the number of trees and the various public institutions to which same were sold and distributed last year:—

| | |
|--|--------|
| Municipalities | 3,214 |
| Schools | 925 |
| Churches | 378 |
| Zoological Gardens | 2,381 |
| Railway Department | 314 |
| Roads Boards | 1,390 |
| Superintendent Government Gardens, Perth | 249 |
| Wardens' Courts | 115 |
| Agricultural Societies | 115 |
| North Star Gold Mine, Mount Malcolm | 525 |
| Hospitals | 346 |
| Cemetery Boards | 422 |
| Recreation Reserves | 100 |
| Orphanages | 43 |
| Goldfields Water Supply, Coolgardie | 65 |
| Resident Engineer, Geraldton | 255 |
| Mechanics' Institute, Northam | 35 |
| Turf Club, Kalgoorlie | 200 |
| Government Land Agent, Kanowna | 24 |
| Post Office, Helena Vale | 12 |
| | <hr/> |
| | 11,108 |
| General distribution for experimental purposes | 7,244 |
| | <hr/> |
| Total | 18,352 |

64. This amounts to almost six thousand more trees than were disposed of in 1898; and it is to be hoped that this widespread distribution will meet with the success and appreciation it deserves.

SECTION V.

THE TIMBER INDUSTRY.

65. By the courtesy of the Registrar General, I am enabled to supply the following particulars of the timber imports and exports of the Colony for the calendar years 1898 and 1899.

TIMBER IMPORTS FOR YEARS ABOVE REFERRED TO.

| YEAR 1898. | | YEAR 1899. | |
|----------------------------------|---------|----------------------------|---------|
| | £ | | £ |
| Architraves | 1 | Boards | 4,638 |
| Boards | 10,571 | Laths | 471 |
| Laths | 517 | Mouldings | 354 |
| Mouldings | 43 | Wooden houses | 178 |
| Wooden houses | 854 | Worked | 5,354 |
| Worked | 13,919 | Unworked | 27,188 |
| Unworked | 23,366 | In balk, rough or hewn | 3,233 |
| In bulk, rough or hewn | 1,506 | In short lengths for cases | 1,619 |
| In short lengths for case making | 1,400 | Palings | 5 |
| | <hr/> | | <hr/> |
| | £52,177 | | £43,040 |

66. These figures show a decrease of £9,137 in the importation of soft woods during the year 1899; and it is to be hoped that this falling off is due to the fact that more of our local timbers are being used in the building trade of the Colony. It is,

however, regrettable to observe that our timbers are not more extensively utilised, it being nothing unusual to see Oregon joists and rafters used in the construction of warehouses and other works.

67. The imports of 1899, however, still represent a good round figure; and if these soft woods are so necessary a commodity it only points to the importance of the steps that are being taken by this Department to establish plantations of these timbers in Western Australia.

TIMBER EXPORTS FOR YEARS 1898 AND 1899.

68. Particulars of the various timbers exported being now available, the following statement shows the various kinds of timbers sent out of the Colony, the respective quantities of each, their corresponding values, and the countries to which they were exported:—

EXPORTS OF TIMBER FROM THE COLONY OF WESTERN AUSTRALIA FOR THE YEAR 1898.

| Species. | Country to which Exported. | Quantity. | Value. |
|-----------|----------------------------|----------------------|--------------|
| Jarrah | United Kingdom... | Loads. 30,533 | £ 111,307 |
| | Victoria ... | 31 $\frac{1}{4}$ | 105 |
| | South Australia ... | 6,931 $\frac{3}{4}$ | 21,096 |
| | New South Wales | 62 | 212 |
| | Cape Colony ... | 8,553 | 32,385 |
| | Natal ... | 5,105 $\frac{1}{2}$ | 20,785 |
| | Mauritius ... | 319 | 1,037 |
| | Singapore ... | 378 $\frac{3}{4}$ | 1,255 |
| | India ... | 301 | 1,204 |
| | Ceylon ... | 100 | 355 |
| | Total ... | 52,315 $\frac{1}{4}$ | 189,741 |
| Karri... | United Kingdom... | 15,832 $\frac{1}{4}$ | 78,109 |
| | Victoria ... | 650 $\frac{1}{2}$ | 2,601 |
| | South Australia ... | 24 | 98 |
| | New South Wales | 1,245 | 6,225 |
| | France ... | 1,057 | 4,230 |
| | Natal ... | 6,938 | 28,463 |
| | Cape Colony ... | 1,666 | 8,078 |
| | Argentine... | 587 | 2,935 |
| | Ceylon ... | 935 | 3,740 |
| India ... | 473 | 1,892 | |
| | Total ... | 29,407 $\frac{3}{4}$ | 136,371 |
| Tuart | South Australia ... | 10 | 50 |
| White Gum | South Australia ... | 5 $\frac{1}{2}$ | 33 |
| | Grand Total ... | 81,738 $\frac{1}{2}$ | 326,195 |

EXPORTS OF TIMBER FROM THE COLONY OF WESTERN AUSTRALIA
FOR THE YEAR 1899.

| Species. | Country to which Exported. | Quantity. | Value. |
|-------------|----------------------------|---------------------|--------------|
| Jarrah | United Kingdom... | Loads. 69,108 | £ 276,432 |
| | Victoria ... | 314 $\frac{1}{2}$ | 1,258 |
| | South Australia ... | 7,602 $\frac{3}{4}$ | 30,411 |
| | New South Wales ... | 163 | 652 |
| | Singapore... | 935 | 3,740 |
| | Ceylon ... | 103 | 412 |
| | Hong Kong ... | 782 $\frac{1}{2}$ | 3,130 |
| | India ... | 522 $\frac{1}{2}$ | 2,090 |
| | Mauritius... | 751 | 3,004 |
| | Natal ... | 5,696 | 22,784 |
| | Cape Colony ... | 5,639 $\frac{1}{2}$ | 22,558 |
| | France ... | 616 | 2,464 |
| | Germany ... | 65 | 260 |
| | Belgium ... | 300 | 1,200 |
| | Argentine... | 510 | 2,040 |
| | Uruguay ... | 746 $\frac{1}{2}$ | 2,986 |
| | Guam ... | 3 | 12 |
| Total | 93,858 $\frac{1}{4}$ | 375,433 | |
| Karri | United Kingdom... | 27,143 | 108,572 |
| | Victoria ... | 1,543 $\frac{1}{2}$ | 6,174 |
| | South Australia ... | 738 | 2,952 |
| | New South Wales ... | 792 | 3,168 |
| | Singapore... | 819 | 3,276 |
| | India ... | 1,936 | 7,744 |
| | Ceylon ... | 1,942 | 7,768 |
| | Natal ... | 5,934 | 23,736 |
| | Cape Colony ... | 1,709 | 6,836 |
| | Argentine... | 854 | 3,416 |
| France ... | 995 | 3,980 | |
| Total | 44,405 $\frac{1}{2}$ | 177,622 | |
| White Gum | Victoria ... | 2 | 9 |
| | South Australia ... | 5 | 20 |
| | Total | 7 | 29 |
| N.O.E. | United Kingdom... | * | 5 |
| | France ... | ... | 109 |
| | Total | ... | 114 |
| Grand Total | 138,270 $\frac{3}{4}$ | 553,198 | |

* Quantity not stated.

69. It is regrettable to note from these statements that our less known timbers, viz., York Gum, Morrell, Wandoo, Tuart, and Blackbutt are not receiving the attention of the outside world. These timbers are unsurpassed by any in Australia for wheelwrighting purposes, and I am sure a market for them would arise were their merits only more widely known.

70. Detailed statements such as the foregoing are not only interesting but valuable, showing as they do the countries in which the timbers of the Colony are in most demand.

71. It will be noticed from the preceding statements that the output of timber during 1899 exceeded that of 1898, the increase being principally noticeable in the shipments of Jarrah and Karri.

72. The total value of the timbers exported from the Colony in 1899 was £553,198, as against £326,195 in 1898, showing an increase in the value of exports amounting to £227,030. This is a very considerable increase, and goes to show that in spite of the depression in the Timber Industry the export trade of the Colony is still rapidly increasing.

73. This will be more easily realised when I state that the exports in 1893 amounted to £33,888, while those in 1899 amounted to £553,198.

74. The following statement shows the amount and value of the Sandalwood exported from the Colony during the years 1898 and 1899, and the countries to which it was sent:—

EXPORT OF SANDALWOOD FROM W.A. FOR THE YEAR 1898.

| Species. | Country to which Exported. | Quantity. | | Value. £ |
|------------|----------------------------|-----------|-------|-------------|
| | | tons | cwts. | |
| Sandalwood | United Kingdom ... | 100 | 0 | 880 |
| | New South Wales ... | 81 | 10 | 692 |
| | Singapore ... | 2,311 | 10 | 15,759 |
| | Hong Kong ... | 1,855 | 16 | 14,481 |
| | Total ... | 4,348 | 16 | 31,812 |

EXPORT OF SANDALWOOD FROM W.A. FOR THE YEAR 1899.

| Species. | Country to which Exported. | Quantity. | | Value. £ |
|------------|----------------------------|-----------|-------|-------------|
| | | tons | cwts. | |
| Sandalwood | United Kingdom ... | 216 | 16 | 1,464 |
| | Singapore ... | 1,352 | 16½ | 8,053 |
| | Hong Kong ... | 2,514 | 0 | 20,202 |
| | Total ... | 4,083 | 12½ | 29,719 |

75. From these statements it will be seen that the value of the Sandalwood exports have decreased from £31,812 in 1898 to £29,719 in 1899. The export of Sandalwood, although a fluctuating one, has for many years been very considerable, and has represented a considerable source of wealth to the country.

76. As is well-known, Sandalwood has been largely exported from W.A. for many years, and has, in fact, been cut and grubbed up in a most ruthless manner; many of our farmers having made large sums of money from the Sandalwood trade.

77. Of recent years the market has been glutted, and the tree was given a chance to regenerate itself; but as prices are expected to increase, the same wanton destruction is again beginning. It is regrettable, therefore, that earlier steps were not taken to prevent the ruthless destruction of this tree, which has been such an important factor in the timber industry of the Colony.

78. Since the formation of this Department, however, active steps have been taken to conserve the existing patches of Sandalwood, and with this end in view, a large area of country has been closed against cutting. The area referred to includes that portion of the Colony in which Sandalwood has been obtained since the early days. The young trees are appearing pretty generally all over the closed area, and it is hoped that the reproduction of the tree by natural means is thus assured.

79. In addition to this, steps have been taken in experimenting in the artificial cultivation of the Sandalwood upon the two blocks of land at Pingelly and Meckerling, previously referred to.

80. It will be also seen, on reference to the present Timber Regulations that provision is made for restricting the cutting of Sandalwood to a given size, with the view of protecting the immature trees existing outside the closed area against the depredations of the ruthless cutter. These facts go to show, therefore, that this Department is alive to the importance of providing for the future maintenance of this tree.

SECTION VI.

THE LOCAL TIMBER INDUSTRY.

81. There is little doubt that the Timber Industry of the Colony has been depressed for the last two years, the fierce competition between the various companies, the low prices obtained in London, and the high freights having to a great extent caused the depression.

82. As a set-off against this, however, I may say that large orders have been placed in South America, Cape Colony, Natal, and Ceylon, while inquiries *re* our timbers have also been received from China. In fact some of the Companies state that they never had larger or more numerous orders on their books before. The existing low rates may also possibly stimulate the trade by enabling our timbers to be introduced and made known in many countries where they have, up to the present, hardly been heard of.

83. The demand for our hardwoods is also increasing on the Goldfields, and there is every reason to hope that the timber trade of the Colony will soon be on a sound footing again. The fact that the supplies of hardwood from other parts of the world are approaching exhaustion should also cause the prices of our timbers to advance, and I fail to see any reason why our hardwoods should not command the prices realised by European Oak or Indian Teak.

84. In fact there is no reason why the timber trade of Western Australia should not flourish and increase under competition just as well as other trades, and I have little doubt that if our export trade is properly looked after, and only the best article sent abroad, our timbers will in the near future bring the highest prices in the market, giving a handsome return to the Companies and a large revenue to the country.

85. With regard to the waste at the mills, I think, taking all things into consideration, that it is not so great as may appear to the casual observer. It must be remembered that the Companies are now tapping primeval forests containing a considerable proportion of timber that matured years ago (which has been deteriorating ever since), and which when felled is found to be pipey and faulty in many respects.

86. When this timber is cut up at the mill there is therefore a considerable amount found to be valueless, which would not be so had the forest been operated upon when in its prime, and which would appear as waste in any forest.

87. Also in the production of any sawn timber a certain proportion of waste is inevitable, viz., the heart, sapwood, shakes, etc., which can only be used for charcoal or firewood. Unfortunately there is little local demand for this, and as it cannot be allowed to accumulate, and must be got rid of, it is shot into the fire heap. The greater portion of the timber burnt is, therefore, only stuff that is valueless and unsaleable under present conditions.

88. Of course there is no doubt that in the production of 9in. x 3in. paving blocks for the English market, a considerable amount of timber is wasted which is really marketable stuff. The Companies are bound by their contracts to supply 9in. x 3in. timber, and consequently, smaller pieces, which may be only a quarter or an eighth of an inch under this size, are rejected, though perfectly sound marketable timber.

89. The timber could, of course, be sawn into smaller scantlings, but as there is little demand for this class of timber in the Colony at present, it would not pay to do so, and consequently it is also burnt as waste. We cannot, of course, force smaller sizes on the English market, but it seems to me that the waste might be avoided if the foreign buyers could be prevailed upon to accept smaller sizes such as 8 x 3, 7 x 3, 6 x 3, or 5 x 3. This matter will be brought to the notice of the various Companies, with the view of inducing them to approach their clients in the matter.

90. It seems to me that this question of waste is one that will right itself as new industries are formed in the Colony, which will require timber of this class, and I am sure the mining industry will eventually absorb most of the timber that is now burnt as useless. This, I am glad to say, is already the case in the Donnybrook district; since the goldfields started there, all the timber that would otherwise be wasted is now being utilised by the mines.

91. Another source of waste in the production of timber for the English market is caused by the prejudice of the foreign buyer to timber showing gum veins or exudations of gum. This has been the principal reason for the rejection of large quantities of timber sent to England. The Companies have consequently been very careful to select the cleanest timber only for export, that showing veins, etc., being looked upon as worthless.

92. I am, however, of opinion that gumminess in timber used for such purposes as sleepers, piles, and other underground work is not detrimental to it, as the durability of our Jarrah and its immunity from the attacks of the *Teredo Navalis* and other borers is largely attributable to the peculiar acid contained in the wood, which often appears in the form of gum veins. Steps should be taken therefore to disabuse the minds of the foreign buyers on this point, so as to prevent the rejection of this timber in the future.

93. It has been suggested that possibly the waste timber at the various saw mills might be utilised for the manufacture of wood pulp for paper. I do not know if our timbers are suitable, but judging from the present demand for wood for this purpose, the question is worthy of consideration. The woods mostly used are the soft-wooded species of trees, such as Willows, Poplars, Birch, Lime, and the softer Spruces and Firs.

94. A pulp mill which would turn out 10 tons of pulp per day would cost, erected here, something like £30,000, and as the pulp when manufactured would have to be shipped to foreign markets, where labour, etc., would be much cheaper than here, its manufacture in W.A. could only result in loss. I doubt, also, if our waste could be sent home in a raw state at a sufficiently low figure to compete with the pulp manufactured on the Continent of Europe. Judging from the present rate of increase, the wood required for the manufacture of pulp will, before long, assume enormous proportions.

95. It was estimated some years ago that in the United States alone 50,000,000 cubic feet of timber were annually converted into paper pulp. About 40 years ago the first wood-pulp factory was started in Saxony, Southern Germany, whilst the first opened in Sweden began work in 1857. In 1890, however, there were 534 wood-pulp factories in Germany, 211 in Austria, and 120 in Sweden. The annual consumption in German pulp factories alone is 57,128,400 cubic feet of wood.

96. It will be readily seen, therefore, that the exhaustion of timber suitable for paper-making cannot be very remote, and I think it would be wise policy to ascertain if our timbers are suitable for the manufacture of paper pulp. Many grasses and fibres are used in the manufacture of paper, and I have little doubt but that paper bark might be used for the purpose. If samples were sent to the Agent General, London, with the request that it be experimented with, good might possibly result. Parcels of paper-bark have already been sent home at the request of a London firm, but the purpose for which it was required was not disclosed.

97. It is of course very easy to make these suggestions, and they no doubt at first seem feasible enough, but owing to the high rate of labour, etc., existing in Western Australia, we are always handicapped, and unfortunately in the end confronted by the question, Will it pay?

SECTION VII.

ADVERTISING LOCAL TIMBERS.

98. Although much has been done since the Department was first started in the way of making our timbers known to the outside world, a great deal still remains for us to do in advertising their various qualities, uses, etc., and with this end in view the following steps have been taken by the Department during the year. Samples of timber in the rough, viz., Jarrah, Karri, Tuart, Sandalwood, Jam, York Gum, Morrell, Blackbutt, Sheoak, and Wandoo were sent to the Agent General.

99. A handsomely prepared book showing polished samples of all our timbers was also sent to the Agent General, an index diagram to the different woods used accompanying same. These have since been acknowledged by the Agent General, who states that the samples have been placed in a position in his Department where they can be viewed by persons calling and making inquiries *re* the timbers of the Colony.

100. Most of the samples of timber forming exhibits in the Departmental Museum were exhibited at the Coolgardie Exhibition and five awards were received for same.

101. At the request of Mr. J. V. Ulrich, of Fremantle, samples of all our timbers were supplied to him for transmission to the Chamber of Commerce, Prague, Bohemia; also, at the request of Mr. Willoughby R. Hughes, M.I.C.E., of Ching Wang Tao, China, full particulars were supplied to him *re* Jarrah and its capabilities of resisting the attacks of the *Teredo Navalis* and other sea-worms.

102. The many cases where Jarrah piles forming portions of our bridges and jetties were found, when drawn, almost as sound as when first driven, although the water swarmed with teredo, etc., were also cited. In November of the year under review, Mr. J. Brown, who proceeded to China and Japan with the view of introducing W.A. timbers to the markets of these countries, was supplied with sections of Jarrah piles which had been in salt water for 45 years. These samples were in a high state of preservation, and will enable him to demonstrate the extraordinary durability of Jarrah in sea-water.

103. As a means of further advertising the timbers of the Colony, and of enabling us to illustrate their suitability for inlay work, an exhibit has been prepared in this form for the Departmental Museum. This exhibit is in book-panel form, shows all our principal timbers beautifully polished, etc., and serves to illustrate what can be done with the woods of this Colony in ornamental and fine work. An octagonal-shaped table has also been prepared for the same purpose, showing the suitability of

our timbers for veneer; and as the figured timbers, such as Banksia, Sheaoak, York Gum, Jam, Sandalwood, Native Pear, etc., are highly suited for this work, the result has been eminently satisfactory.

104. Praises of our hardwoods have often been sounded and various attempts made to bring their superior qualities before the public; and of all the efforts made by this Department, the Report on the Forests of W.A., published in 1896 by the late J. Ednie Brown, must take the foremost place. During the year under review this report was brought up to date and considerably improved. This publication is of great value; it deals with the whole timber resources of the Colony, and brings clearly into prominence the value of the vast national asset we possess in our forests. A considerable number of additional illustrations have been added, and the whole report is more comprehensive and reliable than that published in 1896.

SECTION VIII.

STATE FORESTS.

105. Considerable areas of forest country have already been set apart from time to time throughout the Colony as Timber Reserves and State Forests, in blocks varying in size from 1,000 to 10,000 acres. The object in setting apart these blocks is to prevent all the timber country being taken up under timber lease, and thus reserve sufficient forest for the requirements of settlers and the holders of monthly timber licenses.

106. This system of setting apart blocks of country is still being continued, and steps are now being taken to reserve such patches of fair timber land as still exist on our Goldfields. These areas will be placed under a proper system of conservation, the young seedlings and saplings protected in every possible way, and only the matured timber allowed to be cut. There need be, therefore, no fears as to the future maintenance of our forests, as every care is being taken to make ample provision for timber reserves throughout the Colony.

SECTION IX.

FOREST CONSERVATION AND RE-AFFORESTATION IN W.A.

107. As it appears to be the opinion of some people that our forests are being neglected, and that conservation and re-forestation should be carried on in this Colony upon modern European methods, I should like to make the following remarks upon the subject.

108. Conservation and re-forestation on above-mentioned lines appear to me altogether premature for the wooded parts of Western Australia. In Europe the forests are all State forests, under the direct control of the State, and being of limited size, in comparison to our vast areas of timber country, are worked under the most approved silvicultural methods. In this Colony, however, the conditions are quite different, as we have parted with a great proportion of our forests to private companies, and owing to the great extent of same we cannot, unless at a great cost, treat them according to silvicultural methods.

109. Anyone who has had experience of the forests of this Colony must be aware that replanting of the indigenous timbers is totally unnecessary, owing to the wonderful reproductive powers of the forests. It is a well-known fact that many of the old mill sites which had been denuded of matured timber 15 or 16 years ago now

have timber fit for the saw growing upon them, and are covered with a dense crop of seedlings, which bids fair to produce a better crop than the original one. This goes to show that replanting by artificial means is an unnecessary work.

110. As to the thinning and pruning of our forests—a matter to which so much attention is given in Europe—I think it will be admitted that this is quite impracticable at the present time. Firstly, owing to the vast areas to be operated upon, and secondly, owing to the fact that the operation would never pay. In European forests, the sale of the thinnings pays handsomely for the labour entailed; but in this Colony a very small percentage of them could be disposed of, owing to there being no local demand for same, and they would consequently be stacked in the bush for future use and eventually destroyed by bush fires.


111. With regard to any large scheme of re-afforestation on the Goldfields, as already stated, I consider this would be one of the most costly experiments the Government could undertake, and one that would in all probability result in repeated failure. All we can do at present is to set apart the patches of fair timber, which we know still exist upon our Goldfields, for Timber Reserves; see that the young timber on them is protected, and also allow the timber within the boundaries of the State forests, which are closed to all cutting, to regenerate itself by natural means.


112. Of course, sowing or planting on a moderate scale might be indulged in by establishing small patches of suitable timbers, such as Sugar Gums (*Euc. corynocalyx*), etc., which would, no doubt, in the course of time spread by means of self-sowings, and this work could be done at a very small cost by the Ranger of the district. If replanting is unnecessary, and thinning, etc., impracticable in the South-Western Division of the Colony, and re-afforestation too costly outside it, the question resolves itself into this: that all we require to do at present is to protect the young timber and prevent the ruthless destruction of timber generally. This, of course, can be easily done, provided we have an efficient staff of Forest Rangers to see that the conditions of the Regulations are adhered to, and is all that is really needed for many years to come in Western Australia.

113. With regard to the planting of exotic timber trees, the late Conservator has dealt with the matter in his Report on the Forests of the Colony, and as we have a trained and intelligent man in the Foreman of the State Nursery, it only remains for us to carry out, if necessary, the suggestions and recommendations contained in the Report referred to.

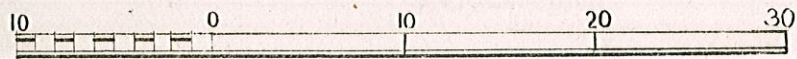
WESTERN AUSTRALIA

Map of SOUTH WEST PORTION Shewing

Timber Lands Selected thus 

Timber Lands open for Selection 

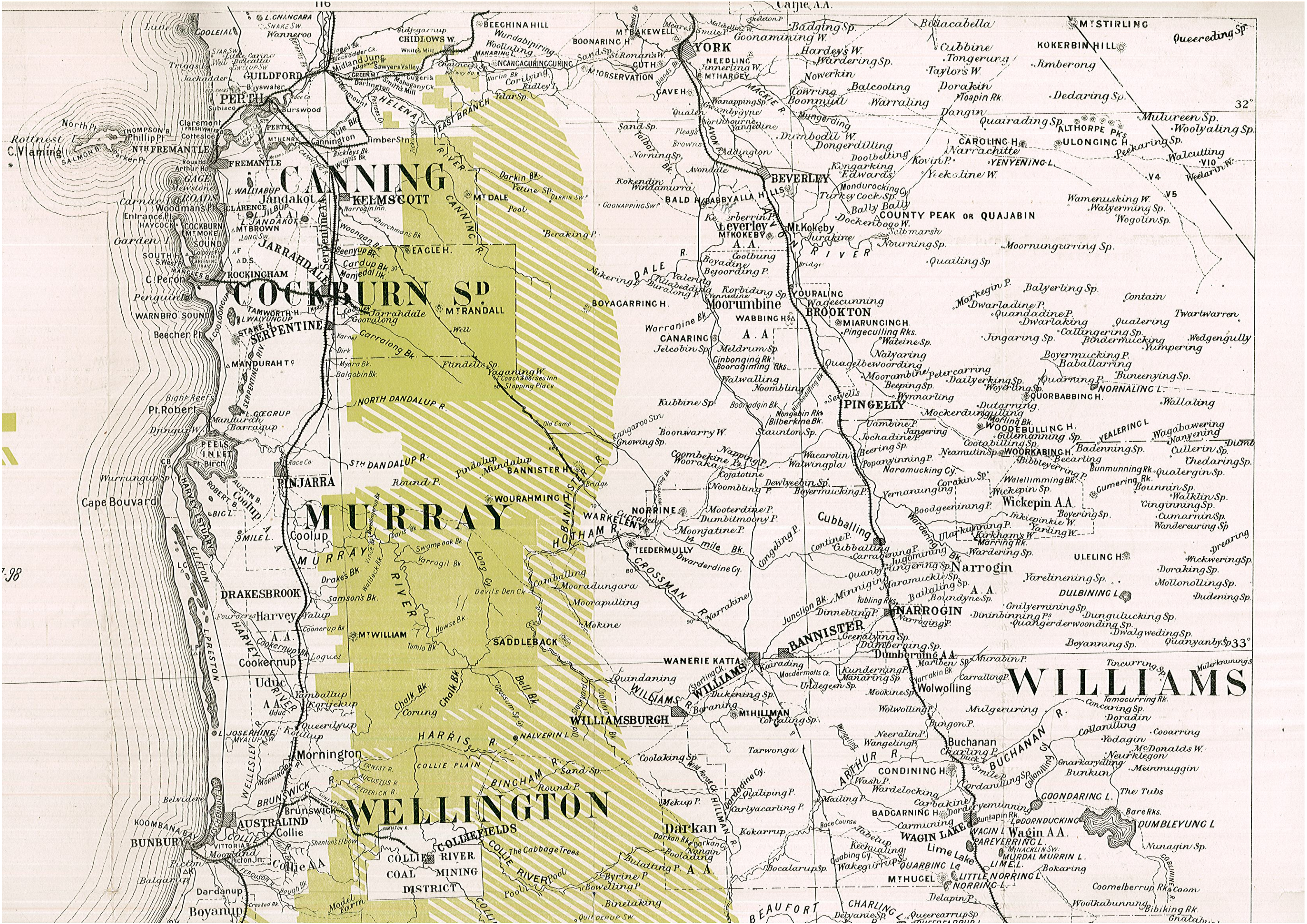
Scale 10 Miles to 1 inch



To accompany Conservator of Forests report for 1897-98

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Map showing various shires and localities including: CANNING, COCKBURN SP., MURRAY, WELLSINGTON, WILLIAMS, BUNBURY, and others. Major cities like Perth, Fremantle, and Mandurah are also labeled. The map includes geographical features like the Swan River, Canning River, and various hills and mountains. It also shows a grid of latitude and longitude lines.

32°

33°

7.98

SUSSEX

NELSON

34°

35°

115°

116°

117°



WARDANUPH
Cunyulup Bk
Wygadup Bk
Yallingup Bk
Cunyulup
C. Clairault
Injidup Sp
Quininup Bk
Masas Rk
Wilyabrup Bk
Biljedup Bk
Yeryuca Bk
COWARAMUP
Cowaramup Rk
COWARAMUP Pt
Cnocardup
Kilcarnup
Cow Rk
C. Mentelle
MARGARET R.
Walgine Myha or Rainbow Cave
Boodjidup Bk
Galgadup Bk
C. Freycinet
Black Rk
CHAPMAN R.
Dead Mares P
Rosa Bk
Falls
CAREY'S FLAT
Jalbarragup
WOODNANUP
Carliotta Bk
Hamelin Bay
Graces Rk
McLeods Ck
Boranup
Karridale
C. Hamelin
AUGUSTA
Hardey In.
Molloy I.
SCOTT R.
Snake Sp.
MILYEAANUP SW
L. QINGILUP
Peerabeetup
Woodysurup Sp
L. QUITJUP
FLINDERS BAY
Pr. Mathew
St. Alouarn I.
Flinders Is.
S.W. Breaker
Cape Leeuwin
White Pt.
DICKSONSTRIC
Bolginup
L. JASPER
Quinelup
DONNELLY R.
Beedelup Bk
Fly Bk
SILVER MT
WARREN R.
W.R. Meerup Bk
Black Hd.
Pr. D'Entrecasteaux
S.W. Reefs
West Cliffe Pt.
Ledges
Sandy I.
BROKES INLET
BROKES REEFS
GARDNER R.
CHOMDALUPH
WALCOLL'S HO
WARREN R.
Dombakup ford
Merridup
COWEUP SW
LAKE MUIR
MYALGELUP L.
TORDITGARRUP L.
BYENUP LN.
MT JOHNSTON
MT MITCHELL
MT ROE
CALDYANUP PK
MT FRANKLAND
DEEP R.
WALPOLE R.
GARDNER R.
WALPOLE R.
IRWINS INT
Quarram
PARRYS INT
Kordabup
Rocky Hd.
Saddle Hd.
Rame Hd.
Irwin Pt.
FOULB
BOAT HD.
Mehniup
Nowhamup
MT SHAD
MT



SUSSEX

NELSON

KOJONUP

HAY

116°

117°

SUSSEX

NELSON

KOJONUP

HAY

116°

117°