1864–5.

VICTORIA.

REPORT

ON

THE ADVISABLENESS

OF

ESTABLISHING STATE FORESTS.

BY

THE SURVEYOR-GENERAL,
THE ASSISTANT COMMISSIONER OF LANDS AND SURVEY,
AND THE SECRETARY FOR MINES.

PRESENTED TO BOTH HOUSES OF PARLIAMENT BY HIS EXCELLENCY'S COMMAND.

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REPORT.

Melbourne, 25th October, 1865.

Sir,

When acting as Commissioners appointed to enquire into applications for land under the 42nd section of the "*Amending Land Act* 1865," our attention was directed in many places to the rapid and unnecessary destruction of forests in the neighborhood of the gold fields; and we have thought fit to recommend that some applications for blocks within the natural forests should not be entertained.

We believe that much of the prosperity now so evident on the gold fields of Victoria, is due to the circumstance that claimholders and lessees of Crown lands have the opportunity of procuring timber from the indigenous forests at small cost. They require wood, both for underground operations and for engines; and it has been ascertained that any considerable increase in the price of timber would cause works to be abandoned as unprofitable, which now yield to the miner considerable sums over and above the cost of working. A great number of persons employ themselves in cutting timber for the mines. They fell the best, and destroy more than they use, consequently there is unnecessary waste. Persons resident on the gold fields destroy also an immense number of fine trees, by taking sheets of bark from them for roofing their huts. Instead of at once felling a tree, and removing from it several sheets of bark of the required size, they generally take one sheet of bark only from each tree, which is left standing with a portion of its trunk entirely denuded of bark; and it soon perishes, and ultimately becomes a prey to bush fires.

We have ascertained that one very great agent of destruction is fire. The woodcutters leave the tops of the trees on the ground; and the branches and brushwood, when dried by the summer heat, become the means of spreading the ravages of the bush fires, which rapidly destroy nearly all the surrounding green timber. It is certain that if steps be not taken to enforce a more economical use of native timber, and to conserve the forests, there will soon be a difficulty in getting timber for the uses of the miner, in any of the forests adjacent to the gold workings.

The needless destruction of timber has caused foreign Governments to amend the laws relating to forests. The authorities in France, Italy, and Germany, and the local Governments of the United States of America, have sought and obtained the assistance of scientific men in repairing the injuries done thoughtlessly in past times ; and only last year the subject was brought under the notice of His Excellency Viscount Monck, the Governor-General of British North America, by Mr. McDougall, the Commissioner of Crown Lands, whose able report demonstrates that even in those colonies, most remarkable for the abundance, variety, and excellence of timber, there soon will be a scarcity, unless prompt measures be adopted to prevent the extravagant waste of the settler and the lumberman.

Here, where we employ about 85,000 miners in mines which, year by year, demand for their advantageous working large supplies of timber, it is right to endeavor to prevent waste. Now that the gold miner is becoming better acquainted with the mode of extracting gold from pyrites, it is probable that furnaces will be erected in all the parts of the colony where quartz reefs occur; and if there be not ready for his use good and abundant supplies of timber, his enterprise will be checked.

We would suggest that you should proclaim, as early as practicable, an extension of the large forest reserve already made in the vicinity of Ballarat, so as to protect the forests on and north of the Dividing Range; and cause to be proclaimed near Sandhurst, Castlemaine, Ararat, Maryborough, Inglewood, Beechworth, and other centres of mining industry, similar large reserves.

We would recommend further that some suitable large area should be selected south-west of Rokewood, with a view to the establishment of a large wood of indigenous and imported trees on the present treeless basaltic plains; portions of which, when properly worked, and *especially when properly drained*, would in our opinion be well suited for arboriculture.

It is well known that the climate of a country, as expressed by the mean temperature, the mean degree of humidity, and the mean pressure of the air, is the result of forces which man cannot control or alter; but it is also known that important changes in the local climatic conditions may be effected by drainage, by storing water, by clearing away forests, and by planting.

Much damage has been done in many places by the indiscriminate removal of forests, as they act not only as a mechanical shelter, by shading the earth from the sun's rays, but serve also an important purpose in intercepting the moist winds and in causing the deposition of moisture. Rosa, in *Il Politecnico*, makes mention of the injury done by the felling of woods and the removal of copses at Piazzatorre, during the reign of Napoleon I. The

local climate was altered so much that maize would not ripen; and it was only by replanting at great expense, that the country was restored to its former state of fruitfulness.

In Spain, Italy, France, Poland, Switzerland, Syria, and Palestine, and also in the islands of Trinidad, Martinique, and San Domingo, much injury has been done by unwise interference with the natural forests.

Caimi, Dussard, Clavé, Marschand, Asbjörnsen, and others, have dealt with this subject, and shown its importance in relation to local climate and cultivation.

Numerous instances could be adduced of the improvements which have been effected by planting woods.

In Algeria, in Southern France,—where, guided by past experience, the Government is planting largely,—in Italy, and in Lower Egypt, many districts have been made fruitful which, since the destruction of the old forests, had been barren. Quite marked changes in the local climate have also been observed in these countries since the forests were restored.

And in this colony, we can see how important the umbrageous forests on lofty ranges are in the general economy of nature, when we contrast these dense forests with the imperfectly-wooded districts. In the height of summer, when the sun and the winds have dried the soil of the lower lands, and withered the herbage on the plains, we have only to travel fifty or sixty miles to the heavily-wooded mountains to find perennial streams of water, vast trees, delicious shade, and where the fern tree attains its greatest dimensions, complete protection from the sun's rays. In such places evaporation is at the minimum, and the foliage of the lofty trees condenses moisture, even when the air on the low lands is relatively dry.

We should endeavor to preserve these conditions. If the forests are properly managed, there will be abundance of timber for the supply of the mines. All the *overgrown* trees will be removed, and other valuable trees planted in the vacant spaces.

In the rich soil and moist climate of the elevated wooded tracts of country proposed to be reserved for state forests at Bullarook, Macedon, Mount Disappointment, &c., the most useful deciduous trees, such as English oak, Turkey oak, elm, ash, walnut, hickory, locust, maple, chesnut, alder, &c., would thrive well; and also all the best timber-producing kinds of coniferous trees, including the Himalayan cedar (*Cedrus Deodara*), the Lebanon cedar (*Cedrus Libani*), the *Cedrus Atlantica*, and all the best pines of Europe and America.

At lower elevations in this colony, in argillaceous soils derived from schistoze rocks, success has attended the planting of the beautiful and rapidly-growing pines and cypresses of California and Oregon, including *Wellingtonia Gigantea*, *Pinus Insignis*, *Pinus Lambertiana*, *Cupresses Lambertiana*, *Cupressus Lawsoniana*, &c.; and on sandy soils near the Victorian coast, *Pinus Pinaster*, *Pinus Pinea*, *Pinus Halepensis*, *Pinus Sylvestris*, *Pinus Sabiniana*, *Pinus Strobus*, *Pinus Canariensis*, and many other kinds of pines have been found to grow satisfactorily.

For the formation of plantations on basaltic plains at present devoid of timber, the most appropriate trees would be *Coniferæ* of all kinds, the more valuable kinds of *Eucalyptus*, such as Western Australian mahogany, and blue gum, and the indigenous blackwood (*Acacia Melanoxylon*). In such exposed positions, it would be necessary to afford shelter to young recently-planted forest trees, by extensively propagating by seed the numerous varieties of acacias of shrubby growth, gorse, and generally all kinds of hardy quick-growing shrubs.

If you think right to adopt these suggestions, you will probably consider what machinery should be employed to protect, conserve, and increase the value of these forests.

Perhaps the best course would be, to vest the reserves in trustees, who would from time to time advise the Board of Land and Works as to the rules and regulations which it would be expedient for the Board to adopt and confirm, under the powers conferred on the Board by the 67th section of the *Amending Land Act of* 1865.

The trustees would also correspond with foreign governments, and arrange for the exchange of seeds and plants; prepare and promulgate rules for the guidance of woodmen; and generally exercise immediate control over state forests and the expenditure of the funds derived from the sale of timber therein.

C. W. LIGAR.
CLEMENT HODGKINSON.
R. BROUGH SMYTH.

The Honorable James Macpherson Grant,
President of the Board of Land and Works,
&c., &c., &c.

By Authority: JOHN FERRES, Government Printer, Melbourne.