

THE FORESTS AND THEIR MANAGEMENT.

Wotake the following from Mr. R. W. Phippe's report to the Ontario Government:

INDIA.

The necessity of preserving tropical forests has fortunately attracted the attention of Government in British India, where the importance of maintaining an equilibrium of temperature and humidity is of much immediate consequence to the social welfare; and the growing demands of railroad use, and the various applications of the arts, render it a subject of direct practical utility.

The matter has been agitated since 1850, and in 1864, Government laid the foundation of an improved general system of forest administration, for the whole Indian empire, having for its object the conservation of state forests, and the development of this source of national wealth. The experience acquired in the forest schools of France and Germany has been brought to apply in this great national undertaking. Among the more important general principles laid down for the execution of this measure is that all superior Government forests are reserved and made inalienable, and their boundaries marked out to distinguish them from waste lands available for the public. The Act of 1864, defining the nature of forest rules and penalties, has been adopted by most of the local governments, and the executive arrangements are left to the local administrations. Various surveys have been made to obtain accurate data concerning the geographical and botanical characteristics of the reserved tracts, and the kind of timber best adapted for various localities has been carefully ascertained.

In 1860, the Government resolved upon sending out five young men, duly qualified by education in the forest schools of France and Germany, for the forest department of India. An arrangement was made the same year by which forest officers in the India service, who might choose to come to Europe on furlough, would be able to increase their professional knowledge by studying forest management and other subjects connected with forests in Great Britain and on the continent. A number of officers have availed themselves of these arrangements, and some of their reports have been published.

Of these, that of Captain Walker, and that of M. Gustav Mann, I have largely used elsewhere, as the reader will have observed.

"At the moment of our writing," says the author of a report from which I have obtained much, presented to the United States Congress in 1874, "the public journals are giving most painful accounts of the distress in India from famine. From a careful study of this subject we cannot doubt that this calamity is due to the fact that the forests have, of late years, been swept off by demand for railroad and other uses much more rapidly than formerly, and that the exposure to winds and sun thus occasioned may have largely contributed to these painful results. The remedies are to be sought in the restoration of that due proportion of forest shade upon which agriculture depends for success. If the officers to whom the opportunities for European observation fall, improve them as well as some reported by Captain Walker, we may reasonable hope for a radical though not on immediate restoration of abundant harvests throughout the vast countries of India."

Now, since this was written, we have Sir Richard Temple's valuable book, "India in 1880," which I have noticed before. This gives us some idea of what has been commenced by the gentlemen who have been writing the reports we have used. He says:

"The Government of India has enacted a law regulating all matters connected with forest conservancy, and the provisions of this law are being carried into effect by [the several local governments]. The forests are divided into two categories; first, those which are 'reserved,' being preserved and worked through state agency, in a most complete manner; secondly, those which are 'protected,' being preserved less thoroughly. The best timber markets are mainly supplied from the reserved forests. Care has been taken to determine what tracts shall be 'reserved' and 'protected,' and to mark off their boundaries. The area thus defined in the

several provinces already, or likely to be defined ere long, will prove to be hardly less than eighty thousand square miles for the whole empire. The primary object of the administration is to preserve the forests for the sake of the country. Due attention is also given to the financial return; much income is already secured. The expenditure is over five hundred thousand pounds annually, but the receipts amount to nearly seven hundred thousand, and in time the forest department will have a prosperous revenue.

"The superior officers of the department are for the most part British, trained in the forest schools of France and Germany. The Inspector General of Forests with the Government of India is Dr. D. Brandis, whose services to the empire have been conspicuous in organizing a system of forestry which is sound and scientific, and is yet adapted to the circumstances of the country. Instructions in forestry is afforded to natives also; forest schools are established for them, and in time they will take a large share of the administrative work.

"As might be expected, the system of forest conservancy, though generally accepted by the natives who dwell near the 'reserved' and 'protected' tracts, is sometimes opposed by them. There must always be some danger lest the foresters should, in their zeal for conservancy, infringe upon the prescriptive rights of the inhabitants. The local civil authorities are vigilant and prompt in asserting and vindicating the rights of the people in this respect; for the recognition of which rights, indeed, ample provision is made by the law. They should, however, be careful to support the forest officers in the execution of duties which are of the utmost consequence to the welfare of the country. Many of the hill tribes habitually burn patches of valuable forest, in order that the ashes may so fertilize the virgin soil as to render it capable of producing a crop without tillage. Having reaped one harvest, they leave the spot marked by charred stumps of timber trees, and move on to repeat the same ravage elsewhere. This barbarous and wastefully destructive practice is gradually and cautiously checked, by reclaiming these people from agricultural savagery, and inducing them to plough lands, and raise yearly crops by ordinary husbandry.

"According to the latest returns there appear to be 29,600 square miles of demarcated reserve forests, 3,500 square miles of protected areas, and 35,000 square miles of unreserved forests, or 68,000 square miles in all. This appears a comparatively small area for so large an empire, especially when it is remembered that of this not more than one half is effectually preserved. Some extensive forest tracts exist, however, in the Madras Presidency, of which a return remains to be rendered. There are, further, 31,000 acres of plantations in various districts."

These plantations, I may remark, are those commenced by the foresters under Dr. Brandis, and are being every year added to at the rate of some thousands of acres. It may be noticed that the forest officers trained in Europe for India, and at work there now, number forty-six out of a staff of ninety-three, who have, of course, an immense number of subordinates.

Concerning other countries, it may be generally remarked, that all the nations of continental Europe are moving in forestry matters, and that there are many schools besides those I have mentioned.

SOUTH AUSTRALIA.

The colonies of Australia and New Zealand are working earnestly in the matter of tree culture. In South Australia there is, we are told, far too little woodland. The consequences are that so arid is the country in parts that the reports state that they can never expect to grow wheat unless the rainfall can be, by the assistance of plantations or otherwise, increased.

South Australia has moved vigorously in the matter. They have appointed a conservator of forests, Mr. J. E. Brown, F. L. S., who has written a valuable work on tree culture there. Reserves have been mapped out, of which one is about fifty thousand acres, another nine thousand, another twenty thousand, with smaller ones of six or seven hundred—the larger evidently intended to be improved into forests on

the European plan—the smaller as nurseries and seed-bed for young plants. Houses have been built for nurserymen, and all suitable buildings erected, and forest rangers and police appointed. The forest board had been in existence three years in 1879, and from the report of operations sent in by Mr. Brown in that year, giving full and admirably worded details concerning the soil, trees, and method of procedure adopted and to be adopted on all the reserves, there is little doubt that South Australia will, considering how rapid growth, when encouraged, is there, (twice as rapid as in Britain) soon possess large and valuable forests, fit to yield yearly a regular and large quantity of timber, without either clearing or injuring the woodland reserves.

NEW ZEALAND.

To show the destruction of timber even where unnecessary for clearing it may be observed that it is evident New Zealand possessed, when first colonized to any extent, in 1830, much land in a prairie or unwooded state, as her area was sixty-six million acres, and her wooded area twenty million acres. However, by 1868 she had destroyed five million acres of woods; and by 1873, she had lost eight, leaving her but twelve million acres. The destruction was principally caused, not by clearing, but by carelessness in allowing bush fires; and it was evident the land would, at that rate, soon be deforested altogether. The well-known writer, Hochstetter, says:—"Individuals should not be suffered to turn the country into a desert to the detriment of whole generations to come. The woods are ransacked and ravaged, in New Zealand, with fire and sword. During my stay in Auckland, I was able to observe from my windows, during an entire fortnight, dense clouds of smoke whirling up, which proceeded from an enormously destructive conflagration near the town. When the fire had subsided, where had been a large beautiful tract of forest was now nothing but ashes." An official of the New Zealand Company had also pointed out to him the destructive propensities of the settlers in cutting down valuable wood. He says:—"A melancholy scene of waste and destruction presented itself to me when up to see the forest. Several square miles of it were burning, having been fired in order to make room for the conveyance of logs down the creek. Noble trees, which had required ages for their perfection, were ruthlessly destroyed in great numbers."

In consequence of this state of affairs, public opinion in New Zealand was loudly expressed, and numerous reports were presented to the Legislature causing animated debates, and large and valuable compilations of these were published. By this time, there is every reason to believe, if these reports and plans have been properly attended to and carried out, New Zealand has made good progress in the matter, though we have not, as in South Australia, an actual Forest Literature, such as the conservator has published.

(To be Continued.)

PRESENTATION TO QUEBEC CULLERS.

On Thursday Sept. 20th at the Supervisor of Cullers' Office, Quebec, the following presentations were made by the square timber cullers attached to the office:—

To James Patton, Esq., (Supervisor of Cullers, a very handsome ice pitcher and tumbler, the former bearing the following inscription:

"JAMES PATTON, Esq.,
SUPERVISOR OF CULLERS,

From Cullers of the Square Department,
as a mark of respect.

Quebec, Sept. 20th, 1883."

To J. J. Walsh, Esq., Acting Deputy Supervisor of Cullers and Cashier, similar articles, with inscription as above.

"To Edmund Gowen, Esq., accountant, a meerschaum pipe, with usual attachments."

The spokesman was Mr. Culler Thomas Gilchen, who complimented the supervisor and his acting deputy for the interest taken in the cullers by them, and more especially the square timber cullers, who on this occasion beg their acceptance of some trifling articles to mark the unanimity and good feeling that at present existed between the cullers and the chiefs of the office. Mr. Gilchen before finishing would beg leave to remark that should the same kindly

disposition be shown in the future, and he had no reason to fear otherwise, judging from the past twelve months, the cullers would be more than happy.

Mr. Supervisor Patton, in his own happy manner, thanked the gentlemen present, and begged to assure him that it always gave him pleasure to be on friendly terms with those over whom he had the pleasure to preside. For the future he assured them that with the assistance of his very efficient and obliging Acting Deputy Mr. Walsh, he had no fear that all would go on in the future in the same satisfactory state.

Mr. Walsh, in responding, thanked the gentlemen present for the very handsome present, as also for the kindly manner in which they had alluded to the part taken by him in the working of the office for the past year. It always gave him pleasure to see things work smoothly and and they might rest assured with such a man at helm as our worthy supervisor, the same harmony and good feeling would continue. Mr. Walsh before resuming his seat complimented the cullers on the increase made to their salary in the way of having their expenses paid, and stated that it only required to be pointed out to the Hon. Mr. Costigan and his deputy, Mr. Miall, for these gentlemen to at once see the justice of their claim by ordering the additional amount in question to be allowed the cullers.

Mr. Gowen stated that he would give his answer in writing.—*Quebec Daily Telegram.*

QUEBEC CULLERS' OFFICE.

The following is a comparative statement of Timber, Masts, Bowsprits, Spars, Staves, &c. measured and culled to Sept. 28:—

	1882.	1883.
Waney White Pine..	2,286,631	2,201,705
White Pine.....	5,049,782	7,101,267
Red Pine.....	1,956,596	1,320,262
Oak.....	2,530,165	1,052,977
Elm.....	998,678	635,205
Ash.....	392,877	213,301
Basswood.....	3,576	1,373
Butternut.....	2,091	2,535
Tamarac.....	24,382	12,445
Birch & Maple.....	151,742	268,282
Masts.....	25 pcs	33 pcs
Spars.....	— pcs	61 pcs
Std. Staves.....	368,729	320,239
W. I. Staves.....	348,133	1066,023
Bri. Staves.....	71,919	27,203

JAMES PATTON,

Supervisor of Cullers.

Quebec, Sept. 28.

NATIVE WOODS FOR DECORATIVE PURPOSES.

A writer in the *Railroad Gazette* gives some ideas about our native woods and their uses that may be of value to our mechanics. He says that white wood is valuable because it remains where put, notwithstanding the fact that its surface is perhaps as easily affected by water as almost any wood. In Virginia there are tracts formerly known as the "Wild Lands" in which much fine forest remains, (tracts where the tulip poplar, or the white wood, shows trees that will square two feet for sixty feet of length, and where the beech, oak, the hickory, and the sugar maple have never been touched. One of the finest tracts of the much used cherry tree is found along the eastern edge of the outcroppings of the coal measures of the northern part of this region. Those who have been accustomed to see miserable, caterpillar-eaten specimens of this tree, would be surprised by the splendid trees found growing in these forests—trees three and four feet over the stump and sixty feet upward before reaching a limb.

On Thirty Days Trial.

The Voltaic Belt Co., Marshall, Mich., will send Dr. Dye's Celebrated Electro-Voltaic Belts and Electric Appliances on trial for thirty days to men (young or old) who are afflicted with nervous debility, lost vitality and kindred troubles, guaranteeing speedy and complete restoration of health and manly vigor. Address as above.—N.B.—No risk is incurred, as thirty days' trial is allowed.

W. A. EDGARS, of Frankville, was cured of Liver and Kidney Complaint after life was despaired of. He had remained from ten to fifteen days without an action of the bowels. Burdock Blood Bitters cured him, and he writes that he is a better man than he has been for twenty years past.