THE LUMBERING INDUSTRY OF QUEBEC.

The Government has had printed and distributed to the members of the Legislature and of the Press Gallery, the first annual report of Mr. J. B. Charleson, Superintendent of Forest Rangers, which contains a great deal of information of interest to the lumber trade and several suggestions affecting it.

Referring to the revenue of the Crown Lands Department from the Ottawa district for the last year, Mr. Charleson says :—

"The total revenue estimated by me from this district was $497,443.00, and I am happy to be in a position to say that the amount has exceeded my estimate as I hoped and expected it would ; the returns now showing a total of $574,147.00 for stumpage dues alone. The report of 1885, which I now have before me, shows that on the Upper and Lower Ottawa the output was 2,425,500 logs and 524,983 feet of square pine ; this is as near as possible to my March estimate which was, as already stated, 2,482,000 logs and 350,000 feet of square pine, but, in making that estimate, I took all logs from 9 inches ; while, in 1885, none were taken below 12 inches, so that the average should have been much higher than in 1888. In fact I consider that the larger average in 1885 should more than equal the slight difference in the number of logs existing between my estimate of March last and the report of 1885. Now, I then estimated an output of 377,264,000 feet, yielding $490,443.00 and $7,000.00 for square pine, or a grand total of $497,443.00, while in 1885 on an equal number of logs, for I repeat that the shortage in number of pieces in 1885 was more than compensated by the larger sized logs in that year, there was only collected in this district $292,758.44. In order to make a fair comparison, however, there must be added to this last amount the 18 per cent. increase in stumpage, amounting to $52,696.52 and 534,983 feet square pine at 2 cents, equal to $10,499 56, or grand total of $355,954.62 for 1885 ; or a difference of, say in round numbers $141,489.00 in favor of 1888."

Mr Charleson also makes a number of suggestions in regard to the prevention of frauds upon the Government in the matter of dues.

Mr. Charleson says :—"I would now take the liberty of recommending that some system of fire ranging in the pine sections of this Province be established ; our rangers might act as the government fire rangers and the lumbermen appoint as many more ; the government to pay one-half and the lumbermen the other half of the cost ; the superintendent of forest rangers might also act in the same capacity over the fire rangers. This system is in vogue in Ontario and gives general satisfaction, costing only $9,000 per annum to that Government. The lumbermen in my district have expressed themselves as willing to follow Ontario's example."

The report further says :—"I now strongly recommend that some means be found to make it necessary that all log cullers should have to pass an examination as to their knowledge and proficiency in that line. They should have a general idea of the sawing of logs and the proper reduction to be made in the case of "hollows" or "crooks." If this was done these men would become more independent of the licentiates, as proficiency would then be the test and not as now, in many cases, ability to reduce jobbers' logs. A board of examiners, comprised of two mill owners and the superintendent of the Forest Rangers for the district seeking the services of the cullers should be named, and then, having passed such an examination, the log culler would feel a professional pride and his oath of office be a guarantee that the work would be faithfully performed."

Respecting the operations of the present year Mr. Charleson says : "I estimate that fewer logs will be made this year than last, but a larger quantity of square pine will be taken out. I consider, however, that I am quite safe in promising $600,000 revenue from my district for this year.

Explorations in British Columbia.

At a meeting of the Royal Geographical Society held recently in London, Rev. W. Spots, read a paper on "Explorations in the Glacier Regions of the Selkirk Range, British Columbia, in 1888." In describing the journey from Winnipeg to the Rocky Mountains by the Canadian Pacific Railway the lecturer said :—The forests of the Selkirks consisted principally of Douglas fir, cedar, spruce, hemlock, and balsam. Roughly speaking, he had enumerated them with regard to elevation ; the balsams, resembling our silver firs, as a rule being nearest to the snow line. They all attained huge dimensions, cedars eight feet in diameter being frequently met with, and they often grow so close together that he could not pass between their trunks. Fires had made havoc with these forests from time immemorial ; lightning and spontaneous combustion caused by friction had no doubt done their work. The Indians were known to have burned the forests for the purpose of producing a good crop of berries on the undergrowth in the ensuing year. It was much to be feared that the fate of the most useful portion of these forests, that near the railway, was now sealed, for the destruction wrought by sparks from the engine, and by neglected camp fires, was of too constant occurrence for even the wonderful recuperative powers of the vegetation in these regions to stand against it.

When the trees first caught fire the flames ran wildly through their tops and lighter branches. The smouldering away of the trunks was an after process, and often took a long time. Sometimes the fires were extinguished by rain before the process was complete, so that in the midst of the living forest numbers of guant charred trunks stood up as monuments of fires that occurred years ago. These rotted slowly, and usually fell after heavy rains, there never being any wind in these valleys, except an occasional blast accompanying a thunderstorm. Beneath the living trees thousands of prostrate trunks lay piled in every conceivable position, and in every stage of decay. These were, to a certain extent, overgrown by rhododendrons and blueberry bushes, and, in the damper parts of the forest, by the devil's club—a plant beautiful to look at, with large, bright green, palmate leaves, and tufts of coral red berries, but whose thorns if they penetrated the flesh, produced festering sores. Picture the lecturer with a 40 lb. pack on his back, creeping along a slippery, fallen trunk, fendi. off the devil's club with an ice-axe, wriggling under fallen trees, or eight feet from the ground on the top of them, and the audience would have some idea of what travel in the Selkirk meant. The heaps of boulders above the forest region formed a refuge for a variety of animals, the hoary marmot, measuring about 3 ft. long, being the commonest and most useful from a commissariat point of view.

A Flower-Collecting Animal.—The Sewellel was a strange beast ; it, too, lived beneath the boulder heaps, and it had the most wonderful fancy for collecting flowers. One day, when they were ascending a glacier, Movaine, his cousin said to him, "Some one has been here before." He said, "Impossible!" but was utterly puzzled by finding a bouquet of flowers plucked, with their stems neatly together, just as though some child had laid them down. What their particular object in collecting flowers was it was difficult to understand, but he had heard it suggested that it was for making hay for winter use.

The Nation's Forests.

The first step in the effort to provide for the conservation of the forests on the national domain should be the withdrawal from sale of all forest lands belonging to the nation It will not be necessary to preserve and maintain all these forests permanently, but the extent of forest territory which will be required by a practical plan of forest-preservation and management for our Western mountain regions cannot be at once precisely determined. A thorough examination of these regions, and of the agricultural country depending upon them for its water supply, will be necessary, in order to show what forests must be retained, and what tracts of timber can be put upon the market without injury to the important interests involved. Until such an examination has been made, none of the forest lands now belonging to the United States should be sold.

The second step should be to commit to the United States army the care and guardianship of the forests belonging to the nation. There is in time of peace no other work of national defense or protection so important as this which the army can perform, and it is plain that under existing conditions, the forests on the national domain will not be—indeed cannot be—adequately guarded and protected by other means. The measures which have been tried, including those now in operation, or nominally in operation, have proved almost entirely ineffective. The forests on the public lands are pillaged by settlers, and by the employees of railroad and mining companies, without scruple or limit. Other instruments will have to be employed if the forests are to be preserved. Their complete and final destruction, with that of the soil which sustains them, is, under the present system, or want of system, only a question of time, and of a very short time.

The officers of the United States army are educated by the nation for its service, and they constitute a body of men not equalled by any other in our country in their equipment for guarding and protecting the great forests regions belonging to the nation. They possess every kind of fitness for this kind of work in greater degree than any other class of men, and if authorized by law to undertake this service they would have the power and the means necessary for its performance, while everybody else is at present inevitably powerless and incapable. As there is likely to be very little work for the army hereafter in the care of the Indians, it will be available for this service of guarding the national forests. The work can be done well by the army, and it would cost nothing, or very little, while any other plan would necessarily be both ineffective and costly. This guardianship and defense of the nation's forests by the army of the nation should be continued and maintained until a sufficient number of adequately trained and equipped foresters has been provided by the national government for the administration of a complete and permanent system and policy for the management of the forests on the public domain.

This brings us to consider the third step. This should be the appointment, by the President, of a commissioner to make a thorough examination of the condition of the forests belonging to the nation, and of their relation to the agricultural interests of the regions through which the streams flow which have their sources in these forests, and to report, with the facts observed, a comprehensive plan, for the preservation and management of the public forests, including a system for the training, by the government, of a sufficient number of foresters for the national forest service.

The commissions should determine what portions of the existing forests on the public domain should be permantly preserved, and in what manner the remainder should be disposed of. The national forests can be so managed that they will be perpetually reproduced, and will yield forever an abundant supply of timber for the inhabitants of the adjacent country, and a revenue which will more than sustain the cost of the forest service. A National School of Forestry should be established at a suitable place in one of the great mountain forests on the public lands, and its equipment should be as thorough and adequate for its purpose as is that of the National Military Academy at West Point. — *Garden and Forest.*

Logs Floated in the Ottawa River.

The following statement shows the number of pieces of timber and saw logs which passed down the Ottawa river and its tributaries, as reported by the chief engineer of government slides and booms during the fiscal years ending June 30, 1887 and 1888 :

	PIECES. 1887	PIECES. 1888
White pine timber	41,109	50,489
Red pine timber	5,500	11,927
Boom and dimension timber	61,251	3[illegible]144
Cedars	10,944	14,093
Round	2,249	3,377
Tamarac	1,951	1,271
Spruce	4	651
Oak	10	13
Ash	71	21
Elm	10	5
Basswood	30	6
Sawed transverses	89	18
Railway ties, equal to in flat tbr	3,422	2,910
Saw logs	3,402,305	3,102,798

The revenue derived from timber dues fell off from $75,518 to $61,588, as compared with 1887. In his report to the government the engineer in charge says that