

book, spoke so enthusiastically; and the passage has been often quoted against the Hudson Bay Company as proof of the great fertility, and fitness for settlement of the whole country which it devoted to the fur trade. Of the navigation and necessary improvements, Mr. Dawson says:—

"Rainy River is, here, a stream of great volume nearly a quarter of a mile in width. The Falls (22.88 feet in height) are just opposite the Port, and from this point to the north-west angle of the Lake of the Woods (a distance of 120 miles, as stated), the navigation is uninterrupted. There are, however, two little rapids on Rainy River, the Manitou and the Long Rapids, occurring about half way to the Lake of the Woods, as set down on the accompanying map. The first, with a fall of 2.50 feet, has great depth of water, and could easily be stemmed by a steamer of moderate power. The Long Rapid may have a fall of 3½ to 4 feet, distributed over a distance of some 20 chains. In this rapid the water glides smoothly, but is in some places shallow. I think, however, that even at the lowest stage of water, a vessel drawing 4 feet could pass. In any case, the bottom is of a nature to be easily deepened, if required. The strength of the current presents no serious obstacle, as canoes can be paddled up, requiring the use of the setting poles at only two points. At the Manitou the tow line has generally to be used. Any impediment in these rapids, therefore, would be so easily overcome, that it is hardly worth estimating, and, to all practical purposes, the navigation in this long reach may be regarded as uninterrupted. In my preliminary report, as already said, before the later explorations were made, in the country westward of the Lake of the Woods, Lac Plat was suggested as the starting point of a road to Fort Garry, chiefly because it was supposed to be the point which would involve the making of the smallest extent of road. The Western extremity of Lac Plat is, however, 158 miles from Fort Frances, while the north-west angle, which is now adopted as the starting point, is but 120 miles: a saving of 38 miles is thus effected in navigating the Lake of the Woods. Before concluding this part of the subject, I would draw attention to the fact that two locks at Fort Frances, where the fall is 22.88 feet, would have the effect of adding Rainy Lake to the navigable reach which I have just been describing, giving 166 miles without a transhipment."

In the last section between the Lake of the Woods and Fort Garry there is a large extent of swampy ground or morass, and a good deal of difficulty was formerly experienced in finding a proper line for a road through it. This was, however, at length done, and a stretch of ordinary road or railway of 90 miles will complete the line of communication. On approaching the prairie country the swamps become less frequent. This prairie country extends for thirty miles on this side of the Red River, and there ends very abruptly like the margin of a lake, the wooded and swampy country continuing thence to the Lake of the Woods.

"In the swampy sections there are some areas of dry ground and good soil, and, where the bogs are deepest, they are intersected by low gravelly ridges which rise but a few feet over the general level. These ridges are firm, and their direction can be traced by the heavy growth of wood which they carry. Flat and level as the country appears to be, it is susceptible of being drained. The section most swampy although but slightly higher than the Lake of the Woods, is at an elevation of over 300 feet above the valley of Red River, and, wherever a run of water is met with, except in the lake-like swamps, it is seen gliding on with a speed which indicates a sufficient fall for all drainage."

"Just where the prairie and woodland meet, there are, in some places, banks of gravel which will eventually become of importance, as material for forming roadways over the soft and yielding soil of the plains. From Fort Garry to the north-west angle of the Lake of the Woods, a road line has been laid out, and its practicability proved by the fact that, for several years, it was used as a post road and the mail carried over it on horseback. Wheeled vehicles, except in very wet weather, can already travel over the prairie, and taking the line altogether, its average cost to form a first-class road, will be rather under than over the general average of such works."

Mr. Dawson's estimate for the necessary works in detail is as follows:—

Total Length of Route by Land and Water.

	Land Miles.	Water Miles.
Dog Lake Road	25	
Dog Lake and River		35
Height of Land Portage	10	
Lac des Mille Lacs & Savane River		42
Baril Portage		8½
Baril Lake		
Brule Portage		12
Windegostegoon	2	
French Portage		15
Kagassikok	2	
Deux Rivières		27
Sturgeon Lake		
Island Portage		17
Nequaquon		
Nequaquon Portage	2	
Namekan Lake		10
Bare Portage		
Rainy Lake		46
Fort Frances		
Rainy Riv. & Lake of the Woods		120
Fort Garry	90	
	181	322½
		131
		453½

ESTIMATE.

The probable cost of opening the communication, in the way I have proposed, from Jourdain's Rapid at the head of the navigable water on Dog River, to Fort Garry would be as follows:—

Lake Region.

Roads and improvements at height of land between Dog River and Lac des Mille Lacs	\$11,000 00
Dam with flood-gates, at eastern end Great French Portage	1,600 00
Dam 35 feet high, across Sturgeon River at Island Portage	18,000 00
Two low flat dams at Nequaquon Lake	4,000 00
Dam at Little Falls (Two Falls Portage on the River Seine)	20,000 00
Six and a half miles road and tramway over portages between Lac des Mille Lacs and Rainy Lake	10 400 00
	\$65,000 00

Land Roads (Fort Garry Section)

Ninety miles land road, between north-west angle of the Lake of the Woods and Fort Garry, would cost for 25 miles, Eastern section, at \$1,000 per mile	\$40,000 00
Thirty-five miles, Middle Section, \$1,000 per mile	35,000 00
Thirty miles Western Section, over low prairie, at \$400 per mile	12,000 00
	87 000 00
	\$152,000 00

Other Works (Lake Superior Section)

A pier required at the Depot, Thunder Bay, Lake Superior	2,500 00
Seven miles land road to connect Fort William, with Dog Lake Line	7 000 00
	9 500 00
	\$161,500 00
Superintendence and contingencies	5,000 00
	\$166,500 00

The above does not include such of the works, in the Lake Superior section, as were provided for in the grant of \$65,900 made last year, except a road at the Height of Land, which is allowed for in the present estimate. This was necessary inasmuch as the total grant of last year will be required to complete the road to Dog Lake, and finish the dam, which latter was found to involve a little more work than anticipated, on account of the necessity, which has arisen of running an additional dam along a rocky ridge of low ground, south of the outlet of Dog Lake.

Mr. Dawson proposes, at the beginning, to use the most modest method of conveyance. He says:—"When the traffic of the Red River Settlement and the North-west Territories has once fairly begun to take the route by Lake Superior, private enterprise will soon fall upon the means by which transport can be most easily effected."

Land Carriage.—In the meantime I may suggest the mode which in the first instance, must be resorted to. At Lake Superior, of course, when the communication is once completely opened, there will no doubt, be ample competition for the conveyance of articles over the road to Dog Lake, as there probably will be at the Height of Land Portage also. At three of the portages in the interior, however, namely, the French, Deux Rivières and Nequaquon Portages, averaging two miles each, horses and oxen will have to be maintained for a time. At the Baril, Brule, Island and Bare Portages, tramways will be arranged for hand cars, the latter being very short. Between the north-angle of the Lake of the Woods and Fort Garry, no provision would have to be made, as the means of conveyance are abundant at the Red River Settlement.

Water Carriage.—On the shorter reaches, boats, such as the Hudson's Bay Company use in the transport of goods from York Factory to the Red River Settlement, would be the best. They carry about five tons, and are easily drawn over a portage. Such boats would answer well between Lac des Mille Lacs and Fort Frances. Once the communication was fairly established, a relay of boats might be kept on each reach, and then much larger vessels might be employed. In the longer reaches steamers might be used to advantage, and would probably—most certainly, if the traffic became extensive—be more economical than boats. There would be in all five reaches in which I think it would be desirable to have small steamers, namely:—

On Dog Lake and River, 34 miles navigable; Savane River and Lac des Mille Lacs, 42 miles navigable; Sturgeon Lake and River, 27 miles navigable; Rainy Lake 46 miles navigable; Fort Frances to North-west Angle, 120 miles navigable.

Thus, in five reaches, amounting in the aggregate to 270 miles the shortest of which would be 27 miles in length, small steamers of a cheap class, might be used to advantage. Gradually as improvement advanced, the reaches might be connected together by means of locks, and then of course, larger vessels would come into play.

In the five shorter navigable reaches of the Lake Region, boats such as I have suggested, or indeed scows or boats of any kind might be used, as for instance, in Baril Lake, 8½ miles; Windegostegoon, 12 miles; Kagassikok, 16 miles; Nequaquon Lake, 17 miles; Namekan, 10 miles. Five reaches, giving 62½ miles for ordinary row-boats and scows.

Mr. Dawson succinctly sums up the resources of the whole district traversed. Altogether, his statement is of a very encouraging character. If we could only secure so good a route and tract of country on the North side of Lake Superior, for a railway to connect our present Canadian system with this or another route to the Red River, then we might feel thoroughly assured that a railway to the Pacific, wholly on British soil, was a work sure to be undertaken in a very few years. The position of that lake, and its rocky and un hospitable Northern Shore, is the only barrier which causes even some earnest men to doubt whether the scheme is really practicable. Mr. Howe said, during the earlier part of the last Session of Parliament, that the thing which first dashed some of his glowing dreams of what this northern land could be, was that when he found how much more it would cost to bring a chest of tea over a railway, than by water, he became convinced that it was hardly possible that the China trade should ever be carried on by way of Halifax and British Columbia. But is it not possible that, with one transhipment at Montreal, another high up the Saskatchewan, and a third at New Westminster or some British Columbian port, a portion, at least, of this trade may, during the months of open navigation, cross the continent. With modern facilities and use of steam, neither the delays nor the expense of transhipment are so great as they once were. They may still, indeed, prove an insurmountable barrier to success in any attempt to attract this trade; but the idea is at least worth the attention of capitalists, shipowners and engineers.

We subjoin what Mr. Dawson says of the country, which we have traversed with him:—

RESOURCES—TIMBER, ETC.

"When the communication is opened, and settlement begins to advance in the prairies of the West, there will be a demand for wood for building and other purposes, increasing gradually until it has attained proportions commensurate with the means of transport. Westward of the Height of Land, on the streams flowing towards Rainy Lake, there is an abundance of timber, such as red and white pine, of a large size and good quality. This section would compare not unfavourably, with some of the best lumber regions on the Upper Ottawas. The prairies are nearly destitute of timber, and here is a supply which, to all practical purposes, may be said to be illimitable, and, looking to the future of the western territories, and having regard to the probable traffic which is to support a line of communication, there are, in the forests of the Winnipeg slope, the elements of a trade which should be kept in view. Another article of economic value, which should be taken into account, is the vast quantity of peat which might be obtained in the swampy region near the Lake of the Woods; some of the swamps are very deep, and hold in store, great quantities of fuel of this description, for a region further to the west where there is but little wood. In a very short time the people of Red River Settlement will find peat cheaper than wood, although, doubtless, they have for the present a considerable supply of the latter article. The country has, however, other valuable resources, of which but little is as yet known, and no doubt, in the future, attention will be directed to its

Mineral Resources.

"It is now well known that silver mines of surpassing richness were discovered at Lake Superior last summer, but it is not so generally understood that a formation, of the same age as that in which they occur, extends, with more or less interruption to the Lake of the Woods, and that, for a great part of the way, the line which it is proposed to open will pass over Schists of the Lower Silurian period, such as yield silver at Lake Superior and gold in Nova Scotia. That part of Dog Lake to the Namekan Lake, will be almost wholly on Laurentian gneiss. Silurian rocks then show themselves, and the Schists on Rainy Lake are plentifully intersected with lodes of quartz. While at Fort William, last summer, I was shown some very fine specimens of gold quartz taken from Rainy Lake. I was also informed, on what I believe to be good authority, that alluvial gold had been discovered but that the fact was being kept as secret as possible. These reports gain confirmation from the fact that on Vermilion Lake, in Minnesota, which is tributary to Rainy Lake, and only at a very short distance from it, gold quartz has been already worked and various claims have been taken up. The communication which it is proposed to open, might, therefore, be the means of developing an American as well as a Canadian gold field."

The following extract shews that the mines in the Vermilion district, near Rainy Lake are beginning to attract attention:—

"THE LAKE SUPERIOR COUNTRY.—The *Gazette* (Superior, Wis.), says:—Colonel Henry Tyndall arrived here from the Vermilion district late last evening, and started for St. Paul this morning. Tests have been made of several of the veins, all with the most favourable results. The quantity of rock tested in each case was not less than 500 pounds. In every experiment so far, the yield has been largely over \$100 per ton; and some of them have gone up to thousands. A private letter informs us of one instance where 150 lbs. of rock yielded 1½ lbs. of bullion. Col. Tyndall pronounces the country rich, and in this statement he is borne out by the amount of bullion which he brings with him, amounting to between seven and eight pounds of gold and silver."

At the Lake of the Woods, chlorite and talcose schists, of Silurian age, similar to those of the gold districts of the Chaudière, are frequent on the Islands, and they are traversed by what appears to be very promising quartz lodes. Upon the whole, the indications and actual discoveries throughout the region are