

with reference to the scale of navigation to be adopted, and the Government having decided on undertaking a survey of the whole route, work was abandoned, and was never afterwards resumed. In that year the first general survey was made under the superintendence of Walter Shanly, C.E., who reported on the scheme the same fall; and in the following year a further examination and survey and a more extended report were made by T. C. Clarke, C.E., of New York. The apparently very great discrepancy between the estimates of costs submitted by these gentlemen, coupled with the opposition arising from local prejudice, and the general ignorance and misconception of the nature of the route existing outside of the Ottawa valley, no doubt had a deterrent effect on the authorities at that time. The Ontario influence in the House was entirely against the project, and in favor of the opening of the St. Lawrence. A few, who saw that the Ottawa alone could build up our Canadian ports, Montreal and Quebec, and that the St. Lawrence system would not avail to prevent the deportation of traffic to New York, but would always prove rather more beneficial to the Americans than to Canadians themselves, advocated it strongly, but the demands of the many prevailed, and in spite of the enthusiastic recommendation of the route by both the eminent engineers named, the work on the Ottawa was finally abandoned, and that on the St. Lawrence carried to completion.

In the years immediately following the surveys mentioned public attention was diverted by the American Civil War, which greatly paralyzed undertakings of various kinds on this side of the line for the time being. One effect it had, however, promotive of the interests of this route. Attention was turned to the military condition of Canada, and a commission of defence was appointed to make due enquiry thereinto. Sir John Michel, then Commander-in-chief of her Majesty's forces in Canada, and Sir James Hope, Admiral on the North American and West Indian Station, were appointed to go over the Ottawa route and report upon it from a military point of view. They did so and afterwards reported most favorably on its merits as a line of defence. However the excitement soon died out, and it led to nothing being done. In 1873 the Canal Commission merely pursued the course already undertaken of developing the St. Lawrence route. Later on the building of the Canadian Pacific Railway absorbed the public mind and energies, and though the claims of the Ottawa to recognition have found frequent champions in Parliament, among whom may be mentioned the late Senator Tasse, Hon. Speaker White, Thomas Murray, Mr. Bryson and others, the completion of the undertaking has remained in abeyance. In 1893 the Montreal, Ottawa, and Georgian Bay Company, comprising a large number of influential gentlemen of the Ottawa Valley and elsewhere in Canada, was organized for the purpose of pushing the construction of the necessary works to complete a through line of navigation to the Georgian Bay, and thus rescuing from undeserved oblivion an undertaking of nothing less than national importance. Having thus given a brief resumé of the history of the project,

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may be next considered, and the all important questions of practicability and probable cost. That the Ottawa River is by nature supremely fitted to become a great highway for traffic is amply demonstrated by the result of surveys already made. Geologists say that formerly

a large portion of the waters of the Great Lake region found their way eastward through the Ottawa, which probably constituted their main channel, until an upheaval of the country about Lake Nipissing, and a gradual draining of the basin, led to their gradual diversion to the present course through the Niagara River. Thus the rocky bed of the Ottawa has everywhere been deeply eroded by the flow for centuries of a stream of much greater magnitude than that now existing in its well-worn channel, and very much larger than the present St. Lawrence River. To this fact is due the peculiar character of the stream, than which there could be none better suited to the formation of a magnificent system of inland navigation, consisting, as it does, of long, deep basins of still water separated by short bars at points where the outcroppings of harder rocks occur. Its chief characteristic is great volume even in the upper stretches; while the short rapids and falls are mostly so situated as to be readily overcome by mere locks and dams, with very little canaling. And it would afford an open navigation often preferable even to that of the great lakes themselves, because of the immunity from the effects of storm and headwinds enjoyed on these land-locked waters. In ascending the river from Montreal we encounter successively Lake St. Louis, 13 miles in length; Lake of the Two Mountains, 25 miles; Deschenes Lake, 27 miles; Chats Lake, 19 miles, and Coulonge Lake, 20 miles long, all with a channel depth of 14 feet or over, often of 30 feet or more. Still farther up is Deep River, a stretch of 30 miles of smooth water of very great depth, and from 1,000 to 2,000 feet wide. Both the Mattawa and French Rivers are of the same general character, consisting of long, deep lake-like basins, separated by short shoals. Only about five miles out of the forty-two of the course of the Mattawa have naturally less than a ten-foot channel. On the French River depths of 20 to 30 feet are most common. All that is to be done is to connect these deep basins by short canals, or mere locks and dams, and the system is complete. Thus Mr. Clarke in his report states that of the total distance of 430 miles between French River and Montreal, 351 miles are already a good natural navigation, and require no improvement, and that it is perfectly practicable so to improve the remaining 79 miles as to convert the whole drain of waters into a first-class navigation for steam-vessels drawing 12 feet of water, by the construction of 20.82 miles of canal, exclusive of the Lachine canal. And H. K. Wicksteed, C.E., in a recent communication on the subject, says that if made for a nine-foot channel, probably 75 per cent. of the route would be available for an 18-foot channel without further improvement. From all which it may be readily inferred that the general character of the streams traversed is highly favorable to the construction of a great through waterway. Other points affecting the question are: water supply at the summit level and terminal harbor facilities.

Passing through a country filled with lakes which act as natural reservoirs, the rivers under discussion have not only great volume, but also steady flow, and are not subject to sudden floods. The Ottawa River, with a drainage area of 80,000 square miles, and a length of 700 miles, has a mean flow of 85,000 cubic feet per second, at Grenville, 35 miles from its mouth; and to compare it with European rivers, is roughly about three times as large as the Rhine, or seventeen times as large as the Thames. Mr. Clarke says of it: