

The St. Lawrence Waterways

By JOHN McDUGALL

SO large a proportion of the population of Canada lives within the St. Lawrence Basin that there is good ground for giving the Agreement which was signed by the governments of the United States and Canada in March 1941 and which is, at the time of writing, before the Congress, the fullest possible consideration. It is a document which will, if adopted, have far-reaching consequences. It will be a major factor in the control of the great river out of whose trade Canada began.

The project is to create a waterway with a depth of 27 feet from Lake Superior to the sea. While the initial depth is limited to 27 feet, provision will be made in all structures for a depth of 30 feet so that it will be possible to adopt that depth at a later date by dredging only should it appear desirable.

The attractions of such a project are very great. With the completion of the Welland Canal the whole of the Lakes constitute a great inland navigation from Prescott to Chicago, Duluth and Fort William with an available depth of 20-23 feet. There remains only the provision of canals around the three main rapid sections between Prescott and Montreal in order to give it an outlet to the sea.

In the international section of the river between Prescott and Cornwall the intelligent solution is to provide a combined navigation and power work with an ultimate installed capacity of 2,200,000 horse power. The whole picture, then, is one which provides a real challenge to the imagination. This may be a misguided plan, but it is not a little one.

Over against these advantages there is a rather impressive total of costs. About 151 millions of dollars have already been spent upon the construction of a ship

channel¹ and a total of some 393 millions is still to be found. In these amounts there are certain omissions of the first importance. There are presently no harbours capable of accommodating vessels using the full depth of the proposed canals, and no dependable estimates of the sum which would be required for their creation. No allowance has been made for interest during the construction period, and there seems to be some question in the minds of engineers concerning the adequacy of the amounts provided for contingencies. In sum, the total cost, assuming present estimates of unit costs to be adequate, may well come to a total of the order of 8-900 millions. The whole of this sum must in the first instance be provided by the two central governments. Against it they may offset payments from the province of Ontario having a present worth (as at the middle of a four year construction period) of about 51 millions and from New York State of about 90 millions. It will be seen therefore, that so long as there remains any lingering respect for the canons of finance this is not a venture which will be entered upon lightly. Especially is this so under war conditions when the possibility of holding to a moderately stable price is still so terribly uncertain.

If the decision is to be a rational one, some kind of balance must be found between the costs involved and the benefits to be gained. In navigation, the formation of a correct judgment must rest upon some estimate of future traffic possibilities. Upon a review of the course of traffic since the last war it has seemed reasonably certain that the great bulk of the traffic upon the Lakes would continue to be an internal traffic, Lake Erie and west. Iron ore moves east to Chicago, Detroit, and the Lake Erie ports but there

EDITOR'S NOTE: Dr. John L. McDougall is on the staff in Commerce at Queens University, Kingston, and has for a long time specialized in problems of transportation. He has recently made a study on the St. Lawrence Waterways for the Canadian Electrical Association. The above article is an out-growth of the work done for that purpose.

¹ This does not include any part of the expenditures upon the old 14 foot navigation to be displaced, but the expenditures on the new ship-way only.

is no real hope of any substantial movement to the sea. Coal moves from Lake Erie to the Northwest Central United States, but there is no reason why it should move from Lake Erie to foreign destinations. The rail movement of coal to Norfolk and Newport News is as cheap as to Lake Erie and it is then in a much better position for the export trade. These two great trades which provide the great proportion of the traffic of the lakes are essentially internal trades. No conceivable change in the level of out-of-pocket transport costs to seaboard is likely to change their directions. Indeed, there is a very clear justification for the expenditure of money now under war conditions for the deepening of the channels in the upper lakes. The iron ore movement comes as near to being the lifeblood of the American economy as any one economic activity can be. The costs of such an improvement are only a small part of the total costs of the whole navigation scheme and its accomplishment would not only increase the average tonnage per voyage and reduce the unit costs still further, but it would also reduce sharply the number of boats which must otherwise be built to permit the presently planned increase in steel production to be carried out.

East of Lake Erie the tonnage moving is of much more modest proportions. Wheat, downward bound, is the most important single commodity, but the great growth has been in the movement of manufactures and semi-manufactures, such as oil and gasoline, wood-pulp and paper, and "all other freight". These are items in which the present absolute size and the possibilities of growth are much less than in the great basic trades of the upper lakes. In other words the great bulk of navigation expenditures are to be made between Lake Ontario and the sea, a section in which the growing trades are already very well served by the existing canals. Too much of the argument in the past has been in terms of the grain export trade which is not of a size to justify any substantial increase in the present investment in the existing canals, still less to justify their total supersession

and which, in any case, seems to be declining in size.

Of special interest to the Maritimes are the probable repercussions of the improvement of the St. Lawrence Canals upon the coal market in Montreal and in the lower river ports. Nova Scotian coal producers find that area their most important single outlet, and also the most vulnerable to American competition. At present it seems to require a considerable amount of governmental assistance of various kinds to hold them in that market. It is a situation which is peculiarly vulnerable and if the opening of the Welland Canal provides a proper parallel it is one which will be sharply affected by the deepening of the St. Lawrence canals. Over the 7 years 1923-29 inclusive there was an average movement of soft coal downward bound through the Welland Canal of 667,000 tons. There was irregularity within the period but no clearly rising trend. 1925 was the high year at 1,052,000 tons followed by 1929 with 745,000 tons. Excluding 1925, the six year average was 603,000 tons. As the new canal came into use, the tonnage rose to 1,325,000 in 1930, 1,998,000 in 1931, and so continuing to a peak of 3,766,000 tons in 1937. The average for the 7 years 1933-39 was 3,013,000 tons. In the same period the average movement through the St. Lawrence canals downward bound was 604,000 tons. The balance stayed in Lake Ontario and at way points along the river. Were the St. Lawrence canals deepened one would expect that similar reductions in the freight rates on coal would tend to produce the same results. It is a pressure which would probably compel mechanisation and other similar cost reductions in the Maritime coal industry which, one understands, have been very strongly resisted up to the present time.

It is quite impossible to consider the power phases of the project apart from the war. Clearly the treaty would not have been brought up again at the present time had not the rising consumption of electric power in Ontario forecast a rapidly approaching need for additional power from some source. Indeed, at the present

time, this is clearly the controlling aspect of the matter. There are no grounds for any expenditure upon the navigation project in time of war and, as the considerations outlined above suggested, very slight grounds for doing anything more between Lake Ontario and Montreal under any conditions, whether of peace or of war. Indeed the suggestion is now being made in Washington that, even if the agreement is adopted, expenditures will be limited to those works necessary to the development of power until after the ending of the war.

That there is a great block of power available in the International section of the river is certain; but for war purposes it has very grave disadvantages. The minimum time required for its develop-

ment is four years. It is a less manageable development because of its very size than the nearest alternatives to it. It is difficult to get estimates of cost per horsepower for such other powers, but it seems certain that, on a cost basis, the St. Lawrence is certainly at no advantage over them and is, more probably, at a disadvantage. In any case, the deciding factor in a war economy is not cost but time, and there clearly the smaller streams have a very marked advantage.

Upon both counts, then, of navigation and of power, it has seemed impossible to find adequate reasons for proceeding with this project at the present time. Whether rational arguments are the only or even the chief ones to enter into the final decision is another matter.

Educating the Consumer in War-Time

By BERYL PLUMPTRE

EVER since war broke out in September 1939 the plea of Canadian housewives has been, "What can we do to help? Surely we can do something in our spare time to help crush Hitler!" Some housewives who are fortunate enough to have reliable domestic help so that they can leave their homes for several hours at a stretch have found war jobs with one or another of the many volunteer organizations. But those of us who must be on duty at home cannot always find satisfying and useful war jobs. Not every woman is content with knitting socks or sewing garments. We have been brought up in the days of mass production and we feel this method of manufacture somewhat irritating, and perhaps not the most economical. And so we have continued to ask "What can we do?"

A few months ago Canadian papers carried the news that the government had published through its Department of Agriculture a booklet for housewives

called *Foods for Home Defence*. This booklet aimed to teach the housewife how to buy food in war-time. But it was more than mere helpful hints for housewives. It was the government's first attempt to show to the housewife her real job in this war. Let us hope that before long more such publications will appear—publications which will not only try to guide our food purchases, but will help us with all our purchases, telling us what we should buy and what we should do without during the war.

It is perhaps somewhat disappointing that the government took so long to venture on its first step, and even more disappointing that its first step should be so hesitating and so limited and should not have been followed by another. *Foods for Home Defence* begins by listing War-time Foods, and briefly comments on the supply available to Canadians. For example it states briefly that Britain needs cheese, ham and bacon—Canadians can do without these things. No housewife will quarrel with that. Newspaper announcements have told us of these

EDITOR'S NOTE: Mrs. Beryl Plumptre, of Toronto, is a graduate of the London School of Economics.