

# THE ST. LAWRENCE WATERWAYS

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**T**HE St. Lawrence Waterways, which form one of the most important routes of inland navigation in the world, extend from Fort William, at the head of Lake Superior, through the Great Lakes and their connecting channels, and thence by the river St. Lawrence to the city of Montreal, a distance of 1212 miles; and, from Montreal eastward, the river and gulf of St. Lawrence extend for a distance of 1003 statute miles to the strait of Belle Isle. The entire waterways comprise in all 2215 miles of navigable channels along the coasts of Canada and of Labrador.

Throughout this route, Canada—almost continuously during the past century—has been making improvements to facilitate navigation. The Great Lakes are deep. Their connecting canals and channels have been so improved that at present vessels drawing 20 feet of water may navigate for a distance of 848 miles from Fort William to Port Colborne, Ontario, or to Buffalo, New York, near the eastern end of Lake Erie; vessels drawing 14 feet of water may now navigate from Port Colborne to Montreal, a distance of 368 miles; and vessels drawing 30 feet of water may now navigate from Montreal to the Atlantic Ocean.

In 1912 the Canadian Government undertook the construction of the New Welland Canal between Lake Erie and Lake Ontario, a distance of 25 miles, to a depth of 27 feet, with a depth over the sills of the locks of 30 feet, so as to permit of deeper excavations in the future. This canal overcomes a drop in the river between Lake Erie and Lake Ontario of 326 feet, of which a fall of approximately 162 feet occurs at the famed Niagara Falls. The completion of the New Welland Canal in 1930 will enable lake carriers, drawing normally 20 feet of water and each carrying 350,000 to 450,000 bushels of grain, to make continuous voyages from Fort William through Lakes Superior, Huron and Ontario to Prescott, Ontario, a distance of 1092 miles; leaving about 120 miles of river and canal navigation from Prescott to Montreal, which is now available only to carriers drawing not more than 14 feet of water.

The International Section of the St. Lawrence river, which forms the boundary between Canada and the United States, is about 115 miles in length, extending from Tibbett's Point, at the

eastern end of Lake Ontario, to St. Regis, on the American side, three miles below Cornwall, Ontario, near the head of Lake St. Francis, where the International Boundary meets the St. Lawrence river. Throughout this International Section, Canada and the United States have free and undisputed equal rights to navigation therein, and equal rights in and to the use of the water for the development of hydro-electric power.

From Tibbett's Point, at the eastern end of Lake Ontario, to Chimney Point, three miles below Prescott, Ontario, and Ogdensburg, New York, the St. Lawrence is a broad and deep slow-moving stream with a total fall of approximately one foot, which is known as The Thousand Islands Sub-Section of the International Section of the river. Along this Sub-Section, which is 67 miles in length, no water-power may be developed, and this part of the river can be improved for the navigation of carriers drawing 25 feet of water by a moderate expenditure for the removal of reefs and boulders.

The International Rapids Sub-Section of the International Section, extending from Chimney Point to St. Regis at the International Boundary near the head of Lake St. Francis, a distance of 48 miles, embraces a series of rapids and swift-moving water, having a total fall of 92 feet, of which a net head of 82 feet may be utilized to produce about 1,700,000 horsepower of primary continuous power, necessitating for its complete utilization an installed equipment of about 2,200,000 horsepower. The United States is now entitled, under the terms of the Waterways Treaty of 1909, to one-half of the hydro-electric power which may be developed on this portion of the International Section of the river. Navigation of this International Rapids Sub-Section is now made possible for vessels of 14 feet draft, by the Galops, Rapide Plat, Farran's Point and Cornwall canals, all of which have been constructed by the Canadian Government on the Ontario side of the river.

From the International Boundary, near St. Regis, New York, to Montreal, a distance of about 68 miles, the St. Lawrence river has a total fall of 127 feet, of which 113 feet may be utilized for the hydro-electric development of at least 2,500,000 installed horsepower. This part of the river lies wholly within the province of Quebec, and its navigation is now made possible for vessels of 14 feet draft by the Soulanges and Lachine canals, which were also constructed and are now maintained by the Canadian Government.

During the past twenty years, from time to time, there has been considerable agitation in favour of the deepening of the connecting river channels and canals between the Great Lakes and along the St. Lawrence river, so as to permit vessels having a draft of at least

25 feet to navigate the entire route from Fort William to the sea, and more recently the Washington Government has made strong pronouncements in favour of the co-operation of the United States and Canada to this end. The respective rights of the two countries in and to the navigation of this great inland waterway, under existing treaties, may be briefly summarized as follows:

By Article 26 of the Treaty of Washington, 1871, the navigation of the river St. Lawrence, ascending and descending from the forty-fifth parallel of north latitude, where it ceases to form the boundary between the two countries (that is, near St. Regis) from to and into the sea, shall for ever remain free and open for the purposes of commerce to the citizens of the United States, subject to any laws and regulations of Great Britain or of the Dominion of Canada, not inconsistent with such privileges of free navigation. By this Article of the Treaty of 1871, Canada is for ever bound to concede to the citizens of the United States free access, for commercial purposes, to the waters of the St. Lawrence river, in its natural state and condition, from the International Boundary to the sea.

Article 27 of the Treaty of Washington also provides that

The Government of Her Britannic Majesty engages to urge upon the Government of the Dominion of Canada to secure to the citizens of the United States the use of the Welland, St. Lawrence and other canals in the Dominion on terms of equality with the inhabitants of the Dominion.

But successive Canadian Governments, while freely admitting, in the exercise of their discretion, the shipping of the United States to the free use of these Canadian canals, have always contended that this Article 27 has no permanent binding legal effect. The Waterways Treaty of 1909 made similar provision, subject to termination on twelve months' notice, for the navigation of all boundary waters from the head of Lake Superior to the International Boundary at St. Regis, by the vessels of either country, and also stipulated that, so long as this treaty shall remain in force, the same right of navigation shall extend to all canals connecting boundary waters or constructed on either side of the International Boundary Line.

This first Article of the Waterways Treaty of 1909 provides that

The High Contracting Parties agree that *the navigation of all navigable boundary waters shall for ever continue free and open for the purposes of commerce to the inhabitants and to the ships, vessels, and boats of both countries equally*, subject, however, to any laws and regulations of either country, within its own territory,

not inconsistent with such privilege of free navigation, and applying equally and without discrimination to the inhabitants, ships, vessels, and boats of both countries.

It is further agreed that *so long as this Treaty shall remain in force, this same right of navigation shall extend to the waters of Lake Michigan, and to all canals connecting boundary waters and now existing or which may hereafter be constructed on either side of the line.* Either of the High Contracting Parties may adopt rules and regulations governing the use of such canals within its own territory, and may charge tolls for the use thereof; but all such rules and regulations and all tolls charged shall apply alike to the subjects or citizens of the High Contracting Parties and the ships, vessels, and boats of both of the High Contracting Parties, and they shall be placed on terms of equality in the use thereof.

This treaty, which confers no right to the use of the canals in the St. Lawrence river below Cornwall, may be terminated by twelve months' written notice given by either party to the other,

Boundary waters are defined by the Treaty as

The waters from main shore to main shore of the lakes and rivers and connecting waterways, or the portions thereof, *along which the International Boundary between the United States and the Dominion of Canada passes*, including all bays, arms and inlets thereof, but not including tributary waters which in their natural channels would flow into such lakes, rivers and waterways, or waters flowing from such lakes, rivers and waterways, or the waters of rivers flowing across the boundary.

The Waterways Treaty of 1909 also provided for the establishment of an International Joint Commission composed of six members, three to be appointed by the President of the United States and three by the Government of Canada, which has jurisdiction over and is entitled to pass upon all cases involving the uses, obstructions or diversions of boundary waters, on either side of the International Boundary line, which affect the natural level or flow of boundary waters on the other side of the line.

On January 21, 1920, the Governments of Canada and the United States referred to the International Joint Commission certain questions relating to the improvement of the St. Lawrence river between Lake Ontario and Montreal, for the purpose of making this river navigable for deep-draft vessels, and for securing the greatest beneficial use of the water for the production of power. The International Joint Commission reported on December 10, 1921, recommending: "That the Governments of the United States and Canada enter into an arrangement by way of treaty for a scheme of improvement of the St. Lawrence river between Montreal and Lake Ontario." And, in accordance with the recom-

mendations of the International Joint Commission, the Governments of the United States and Canada appointed in 1924 a Joint Board of Engineers to enquire and report upon the proposed joint undertaking.

This Joint Board of Engineers, consisting of six members, three of whom were appointed by each Government, made a report, dated November 16, 1926, which was laid before the parliament of Canada only during its last session, to the effect that the proposed undertaking is practicable; and their report furnishes detailed estimates of the cost of several alternative proposals for the improvement of the river and the development of its hydro-electric power.

¶ In the meantime, on December 26, 1927, a special commission appointed by the President of the United States, on March 14, 1927, of which Herbert Hoover was chairman, reported favourably to President Coolidge upon the proposed undertaking. As chairman of that commission, Mr. Hoover recommended that negotiations should be entered into with Canada in an endeavour to arrive at an agreement upon all matters involved in the project for "utilizing the St. Lawrence river as a joint undertaking with Canada"; for, said Mr. Hoover: "The whole St. Lawrence undertaking is, of course, a joint undertaking between the United States and Canada." In the subsequent exchange of notes between the Canadian Government and the Government of the United States, which were recently laid before the Canadian parliament, covering the period from January 31, 1928, to April 7, 1928, a preliminary agreement or understanding was reached apparently to the following effect:

1. That the development of the St. Lawrence Waterways should be a joint undertaking of the two countries, provided that a satisfactory agreement can be concluded as to the equitable division and distribution of the costs.

2. That the United States is prepared to undertake the deepening of the channels through the interconnecting waters of the Great Lakes to a depth of 27 feet; the improvement of the International Section of the St. Lawrence river to the same depth for navigation; and the completion, in connection with such improvements for navigation in the International Section, of such sub-structures for hydro-electric power installations as should necessarily be constructed at the same time.

- ¶ 3. That Canada is prepared to consider favourably the improvement, to the same depth of 27 feet, of the Canadian Section, which extends from the International Boundary at St. Regis to the city of Montreal, and lies wholly within the province of Quebec; and to complete the New Welland Canal to a like depth of 27 feet.



4. That the works for navigation on the International Section shall be so constructed that, in connection therewith, the United States may install its hydro-electric stations and utilize its one-half of the total available power, namely 2,200,000 horsepower, leaving Canada to make similar installations to utilize its one-half of the total power as the Canadian market for power becomes available, so that eventually each country may utilize 1,100,000 horsepower.

5. That the proposed works for navigation throughout all sections of the St. Lawrence Waterways shall be so constructed as to provide navigable channels to a minimum depth of 27 feet, the permanent structures having a depth of 30 feet, so as to provide a through system of lake and river transportation which may subsequently be excavated to a maximum depth of 30 feet.

6. That there shall be a fair division between the two countries of the total expense of constructing the entire waterways from Lake Superior to the sea; that the expenditures for works on the St. Lawrence river should be divided between those which are properly chargeable to navigation and those which are properly chargeable to power; and that the incomes derivable by either country from power development should carry its investment for power.

7. That there shall be a joint technical supervision and control of the development of the International Section of the river for both navigation and power; and that definite and agreed engineering proposals for the development of the entire waterways system should be formulated by the Joint Board of Engineers as a basis for the computation of costs, order of construction and division of tasks; and the United States assumes that the design of all works on the waterways to the sea, by whomsoever constructed, will comply in general with the plans agreed upon by the Joint Engineering Board.

8. That the United States fully recognizes the right of the Dominion of Canada to the ownership, disposition and use of Canada's one-half share of the hydro-electric power which may be developed in the International Section, as well as to all the power which may be developed in the Canadian (Quebec) Section of the St. Lawrence river; and that the disposition of this power is purely a matter of domestic concern, so that Canada will be free to prohibit the export of any portion of its power to the United States.

9. That the United States accepts without reservation the principle that the operation of the proposed works in the International Section must be such as will control fluctuations of the out-flow from Lake Ontario in such manner as to safeguard all

interests on the purely Canadian sections of the river, including especially the interests of the Port of Montreal.

The United States also insists that the use, by the shipping of both countries, of the entire St. Lawrence Waterways System, including all the canals from Lake Ontario to Montreal, shall be safeguarded for all time by the treaty now to be negotiated. The existing right of the commercial shipping of the United States to use the Canadian canals on the International Section may now be abrogated on twelve months' notice, and throughout all the years Canada has hitherto refused to accede to a permanent grant of these rights.

On the other hand, Canada insists that the proposed treaty shall include a permanent and comprehensive settlement regarding the diversion of water from Lake Michigan for the Chicago Sanitary System, and for the preservation of all waters which naturally seek an outlet to the sea through the St. Lawrence river.

This new project for providing a navigating channel from Lake Ontario to Montreal will necessitate the scrapping of existing improvements, such as the St. Lawrence and old Welland Canals and the lock at Sault Ste. Marie, which Canada has made at a cost of \$55,500,000.

Canada, on the completion of the New Welland Canal, will also have expended on existing works which will form a part of the through Waterways System:

New Welland Canal.....	\$115,600,000
Ship Channel 30 feet deep below Montreal .....	32,000,000
Total.....	\$147,600,000

The United States has expended upon existing works which will form a part of the same system:

Dredging St Clair and Detroit Rivers. \$	17,536,000
Locks at Sault Ste. Marie, Michigan..	26,300,000
Total.....	\$ 43,836,000

The minimum additional expenditures for completing the navigating channels and canals, to a depth of 27 feet, from the head of Lake Superior to tidal waters on the St. Lawrence river, in such manner as to permit the hydro-electric sub-structures and super-structures to be constructed and power machinery to be installed from time to time as the demand for power may increase, are estimated as follows:

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On the connecting channels of the Great Lakes.....	\$ 54,900,000	
Deepening Locks at Sault Ste. Marie.....	6,500,000	
Compensating works to maintain lake levels.....	3,700,000	
	<hr/>	\$ 65,100,000
Initial expenditures for navigation on the Inter- national Sub-Section, including such power works and sub-structures as form part of the works to be constructed for navigation pur- poses.....		146,636,000
Similar initial expenditures for navigation upon the Canadian (Quebec) Sub-Section, between Corn- wall and Montreal.....		\$123,449,000
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Total.....		\$335,185,000

If the United States' proposals for an equal division of the costs of the entire Waterways System is accepted, Canada, in addition to the completion of the New Welland Canal, must contribute at least \$115,710,500 in cash to the proposed joint undertaking, for improvements in navigation, as follows:

Canada's expenditures upon completion of Welland Canal, exclusive of the sum of \$55,560,000 al- ready expended upon works which are proposed to be discarded.....	\$147,600,000
United States' expenditures upon existing works....	43,836,000
Additional new works as above.....	335,185,000
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Grand Total.....	\$526,621,000
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Canada's one-half total expenditures.....	\$263,310,500
Less Canada's present expenditures and future com- mitments for new Welland Canals.....	147,600,000
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Canada's minimum additional commitments.....	\$115,710,500

The above expenditures would not produce a single kilowatt of hydro-electric power. The additional expenditures for the utilization of 2,200,000 installed horsepower on the International Rapids Sub-Section are estimated to amount to \$126,710,000, of which Canada must expend \$63,355,000 to utilize one-half of this power; and the estimates for power development on the Canadian (Quebec) Section of the river amount to \$261,985,000 additional for 2,555,000 installed horsepower; so that Canada must eventually provide an additional amount of at least \$325,300,000 for hydro-electric installations to utilize Canada's full share of the available power.



The Dominion Government has had negotiations with the provincial Governments of Ontario and Quebec with regard to these proposed hydro-electric developments; and, with the consent of all parties concerned, a reference has been made to the Supreme Court of Canada of certain questions, the final decision of which will determine the respective rights, titles and interests of these three Governments respectively in and to the hydro-electric power to which Canada is entitled.

There is a prevalent opinion that whatever may be the decision of the Courts as to the respective rights of the Dominion and provincial Governments in and to the hydro-electric power rights available on the St. Lawrence river, it is not expedient that the Dominion Government should now undertake the development, distribution and sale of hydro-electric power for the special benefit of the provinces of Ontario and Quebec; but that the Dominion Government should confine its expenditures, if any such are to be made, to the improvement of navigation only, leaving the provincial Government of Ontario to develop Canada's one-half of the power available in the International Section, and also leaving to the provincial Government of Quebec the development of the power available in Canadian (Quebec) section of the river.

This would necessitate the negotiation of agreements between the Dominion, on the one hand, and the provincial Governments of Ontario and Quebec on the other, as to the contribution which each of these two provincial Governments should make for such part of the costs of navigation works as may be really necessary for power development; and leaving these two provincial Governments, respectively, to bear the entire cost of power developments in their respective provinces.

The main issues remaining for consideration are:

Whether the Government of Canada, in view of its large outstanding capital indebtedness and its increasing obligations to provide for other necessary public works, is now justified in assuming its share of the additional heavy financial obligations which this proposed joint undertaking will necessarily entail.

Whether the economic benefits to the Dominion as a whole, which will accrue from the completion of the proposed navigation improvements, will eventually compensate the Dominion as a whole for the large national expenditures which their construction and maintenance will inevitably involve.

Whether Canada should adhere to the policy, which its successive Governments have pursued for a century, of constructing its own canals in its own territory, as the increase of its own commerce may eventually require.

It is now proposed that the new canals along the International Section shall be located on the United States' side of the International Boundary, leaving the existing Cornwall Canal intact and available for future use when necessary; but the canals in this International Section could be built on the Canadian side at an additional cost of \$3,500,000, though, in so doing, the Cornwall Canal would be destroyed.

Moreover, Article 3 of The Waterways Treaty of 1909 provides that no Government works for the benefit of commerce and navigation may be constructed on one side of the boundary line which would materially affect the level and flow of the boundary waters on the other side of the line, except with the approval of the International Joint Commission, upon which both countries are equally represented. Therefore, neither country can improve this International Section of the river, which forms the natural boundary between them, by constructing dams across the river, either for the improvement of navigation or for the utilization of its available hydro-electric power to the extent which will eventually be necessary, without the consent of the other.

What additional rights over the river St. Lawrence, or through the Canadian canals along the river, would the Government of the United States demand as consideration for its consent to the construction by Canada of new canals on the Canadian side and the independent development by Canada of its one-half share of the available hydro-electric power on the International Section of the river?

The question remains as to whether it is possible for the Governments of the two countries, which have equal rights in the International Section of the river, to arrange a mutually satisfactory treaty, the clear and definite terms of which will ensure that these new canals, whether built on one side or the other of the International Boundary Line, will for ever, under all circumstances, remain free for the shipping of both countries.

In any event, should not the proposed new treaty between the United States and Canada be restricted definitely to a joint undertaking for the improvement only of the International Section of the river for navigation, leaving each country free to develop and utilize its one-half share of the hydro-electric power available in the International Section, as and when its markets for electric power may increase?

Such issues as these must be clarified before the parliament of Canada can act intelligently in confirming or in rejecting any treaty which may eventually be submitted for its approval.