ST. LAWRENCE RIVER AND RAPIDS.

1. Can you give the Commissioners any information as to the nature and locality of the obstructions which exist in the channel of the River St. Lawrence from Prescott to Montreal, for the downward passage of vessels independent of the Canal?

G. E. Jaques, Montreal.—Only refers to the report of Messrs. Maillefert, and Raasloff, published by the Government in 1854.

Montreal Corn Exchange Association.—Quote same report—

"It is practicable to open a channel of sufficient width and depth for vessels drawing 10 feet by removing the obstructions and this can be done for not more than £180,000."

Assuming this to be correct, it will be desirable to give the same depths of water in the Canals; but the immediate necessity is not imperative.

Board of Trade, Hamilton.—Say there is an obstruction in the middle of the Gallops Rapids; one at the entrance of the upper end of the Beauharnois Canal; two shoals in Lake St. Louis; another at the first light-ship above Lachine, and the other between the first and second light-ships—all of which ought to be removed. A light is very much needed on St. Amicette's shoal in Lake St. Francis.

Canadian Navigation Co.—Refer to report of Maillefert & Raasloff.

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2. Can you offer any suggestions to the Commissioners as to the best means of improving the navigation of the river itself, irrespective of the Canals?

Board of Trade, Hamilton.—See question 1.

Canadian Navigation Co.—Think a channel admitting vessels of 8 feet would answer; but refer to report of Maillefert & Raasloff on the subject.

For vessels of 8 feet the only improvement required would be the Coteau Rapids, Racco, Hays, Shoal, Split Rock, a Shoal at Min's Island below Lachine Rapids, and the St. Lambert Shoal below Victoria Bridge. With the exception of Coteau Rapids and Split Rock, the cost would be small, as the obstructions are in almost slack water.

For the safety of vessels during fogs, and snow storms, fog signals are very much required, viz.:—

A gun at Nine Mile Point.
A bell at the Ducks.
A gun at Long Point.
" " " Toronto.
Bell at Burlington Bay.
Gun at Port Dalhousie.

In case of a channel of 8 feet, many light draught vessels as well as the passenger steamers would run the rapids, and thus greatly relieve the Canal.

ST. LAWRENCE RIVER—QUEBEC AND MONTREAL.

1. What is the available depth of water in the navigable channel at the lowest summer levels?

J. W. Winn, Montreal.—About 19½ feet, which could quickly be made 20.

Trinity House, Quebec.—19 feet, that is taking the lowest level on the flats of Lake St. Peter at 10 feet.

C. L. Armstrong, Dalhousie.—20 feet.

Board of Trade, Quebec.—18 feet.

Edsall & Wilson.—See question 2.

William Rae, Quebec.—For steamships, 17.6. For sail, 18.

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2. At what points in the river do the obstructions exist which prevent vessels passing drawing greater depth of water?

J. W. Winn, Montreal.—The small obstructions to a complete channel, 300 feet wide and 20 feet deep, are fully shewn in Mr. Page's report to Public Works' Department; shortly after its publication the chief defect, that near Point aux Trembles, was removed by the Harbor Commissioners who ought to remove the others.

Trinity House, Quebec.—Montreal, Point aux Trembles, Flat Island, Lake St. Peter, Cap à la Roche and Cap Charles.

C. L. Armstrong, Dalhousie.—At Cap à la Roche, owing to a small shoal or poulier in the centre of the channel, which necessitates a short turn to avoid the large boulders lying to leeward with a strong ebb tide. With flood tide there is no danger. Further on he remarks:—

Obstructions are generally caused by boulders, &c., and are always found where there have been ice jams during the winter—the weight of ice embedding them in the clay, at such places as Longueuil, from Point aux Trembles to Varennes, Isle des Sauriers prevents the ice from going down the Vercheres channel. There are frequent jams from Lavaltrie to Lanoarie and again from Point du Lac to Port St. Francis, occasionally at Champlain, then from Leorand to Cap à la Roche and Grandines and through the Richelieu.

Board of Trade, Quebec.—Point aux Trembles, Flat Island (near Lavaltrie), Lake St. Peter, Cap à la Roche, and Cape Charles.

Edsall & Wilson.—Obstructions arise from deposits from the Ottawa, and streams from the south side, and will require a yearly outlay of public money. Quebec is the true place for large vessels.

W. Rae, Quebec.—Point aux Trembles, Varennes, Lanaorai, Lake St. Peter, Provencher Shoal, Cape Charles and La Roche.

3. Is it, in your opinion, practicable still further to increase the depth of the river by dredging, and to what extent could this increase be carried?

J. W. Winn, Montreal.—Believes the increase is only a matter of expense, and refers to Mr. Page's estimate of $800,000 for making a channel 300 feet wide and 22 feet deep—a work very desirable.

A. R. McGibbon, Montreal.—Should be 24 feet at least.

Trinity House, Quebec.—Practicable, but very expensive.

C. L. Armstrong, Dalhousie.—The channel may be dredged to any extent—the bottom being blue clay.

Board of Trade, Quebec.—Think it practicable to increase depth of river by dredging at places named, question 2, to the extent of four feet, but with this it would be necessary to combine the removal of boulders at Cap à la Roche and Cape Charles; but no additional dredging in the river would be of much service without deepening the water in the harbor of Montreal.

W. Rae, Quebec.—Quite practicable to increase depth to 24 feet.

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4. Would it be a great saving or economy in the carriage of freight, if the river were deepened sufficiently to enable vessels to pass up and down drawing 24 feet of water?

J. W. Winn, Montreal.—Thinks deepening to 22 feet should be first completed, and further improvements subsequently carried to such an extent as the wants and prospects of trade should require sooner or later; the channel should be deepened to 24 feet and widened to 400 feet.

A. R. McGibbon, Montreal.—Answers emphatically in the affirmative.

Trinity House, Quebec.—It would certainly be an economy, but vessels drawing 24 feet and of proportional tonnage, would find it difficult to navigate the narrow and crooked channels between the two ports.

C. L. Armstrong, Dalhousie.—The larger the vessels, the cheaper the freight.

Board of Trade, Quebec.—As a general rate, rates of freight diminish to some extent in proportion to increase in size of vessels; as large vessels can be sailed at less expense than small ones.

Adam Brown, Hamilton.—Certainly, the reduction of cost of transit would be in proportion to the increased size of vessel, in proportion as the river is deepened.

W Rae, Quebec.—Without doubt.

RIDEAU CANAL.

1. Is it your opinion that the business of this Canal is of sufficient importance to warrant any outlay for improvement?

James Shaw, jr., Smith's Falls.—Answers in the affirmative.

B. Tett, M.L.A., Ontario.—Is of opinion that the business would warrant an outlay for improvements. The Canal passes through an old and well settled country, and supplies the cheapest mode of transport for merchandize to and from Kemptville, Merrickville, Smith's Falls, Perth, Newboro', and other places of business. It should also be remembered, he adds, that the Rideau Canal was given over to the Canadian Government upon the understanding that the Canal should be kept open, and in proper repair.

Hiram Easton, Merrickville.—Thinks Canal pays, inasmuch as it supplies manufacturing facilities to villages along its route; should it happen that the Canal were closed, a large number of enterprizes would be ruined, and a large amount of wealth unavailable.

R. Kernahan, Kemptville.—Says the Canal is necessary for the trade of the country.

A. R. McGibbon, Montreal.—Does not think there is sufficient trade to warrant any large outlay.

W. H. Fredenburgh, Westport.—Recommends repairs.

J. D. Slater, Superintendent, Ottawa.—Answers in the affirmative and goes on to say, that the present trade is chiefly local. For instance, Ottawa and Kingston consumes in round numbers, 100,000 cords of wood annually, and of this quantity about ⅓ is procured from the Rideau Canal; and were it not for this supply, the consumer would have to pay at least one dollar more per cord. Accompanying Mr. Slater's letter in reply, are returns of the business of this Canal for the year ending the 30th June, 1870. From the return of the Ottawa Office we gather the following facts:—

		tons.	$ cts.
Tonnage of vessels up		28,703	280 76
" " " down		25,925	213 49
Property tons up		28,350	1,225 36
" " down		30,519	1,202 21
Passengers up	391		10 03
" down	237		5 93
Total	628	113,497	$2,937 78

Return from Kingston Mills shows—

" "		52,599	399 11
" "		62,547	528 53
" "		107,818	2,184 71
" "		2,665	167 44
" "	690		17 26
" "	633		16 04
	1,323	225,629	$3313 09

From these returns we find principal tolls collected on Salt, Wheat, Coal, Firewood, Floats, Traverses, Railroad ties, Shingles, Sawed Lumber, Saw-logs, Pork, Merchandize, (class 6.)

John Chafey, Newboro.—This Canal is no doubt indespensable to the country through which it runs. A Cleveland Company have made a contract for carrying through it 20,000 tons of Iron ore from Hull to Kingston, during 1871, and the tolls on that quantity will amount to $4,000. The trade of the Crosby Iron mines is increasing, and must increase to an unlimited extent.

Board of Trade, Ottawa.—If all obstructions were removed, business would be increased fifty-fold.

Board of Trade, Kingston.—Business fully warrants a considerable outlay,

John Manion, Perth.—Judging from the development of the country, north of the Rideau, the trade must increase very largely within the next few years; a most serious loss to this part of Canada most follow, if the Canal should be allowed to go out of repair.

Perth Town Council.—Recommend considerable outlay for improvement as the Canal is indispensable to the prosperity of that part of the country through which it passes, and that the present traffic might be greatly increased by opening up the water communication between Perth and the Rideau. Lumber, Ore and Merchandize would then find their way by the Canal, instead of by the present route.

A. J. Russell, Ottawa.—It seems to him, that as regards the purpose for which this Canal was originally constructed, viz: the transport of troops and military stores—a railway from Montreal to Ottawa, and another as now proposed, to be chartered from the Canada Central Railroad, at Carleton Place, to the Peterborough Railroad, would answer best.

Allan Gilmour, Ottawa.—Recommends outlay for improvement of the Canal to a small extent.

W. K. Dickinson, Manotick.—Corroborates other writers respecting the business of the Canal, and gives a detailed statement of the manufacturing establishments at present situated on the route—the increase of which, as well as the successful prosecution, depends in a great measure upon the efficient working of the Rideau:

MILLS ON RIDEAU RIVER.

Flour Mills	17
Carding and Fulling Mills	4
Saw Mills	12
Oatmeal Mills	2
Shingle Mills	5
Foundries and Machine Shops	3
Stave Factories	2
Cloth "	3
Sash and Door Factories	2
Match Factory	1
Malleable Iron Works	1
Tannery	1
Total	53

In addition to these, are numerous other mills situated at short distances, on either side of the route, whose interests are intimately connected with the navigation of the Rideau.

These establishments are wholly dependent upon a regular and sufficient water supply to the various mill privileges, for which the Government have undergranted leases, and receive an annual rental. Under these circumstances many persons have made heavy investments in good faith. It is, therefore, obviously unjust on the part of the Government to allow this route to become unreliable, as indeed has been the case for some time past.

The mineral productions immediately bordering on the Canal, especially on the Western shore, between Oliver's Ferry on the Rideau Lake and the City of Kingston, are varied and important, yielding iron, copper, lead and phosphate of lime.

The Hull Iron Mines, near Ottawa, have been recently purchased by an enterprising Ontario Company, who intend transporting their yield through this Canal on its way to Cleveland.

G. Chaffey & Co., Kingston—This Canal is of great value to the country through which it passes, including the cities at either end, and its traffic is likely to increase largely in years to come.

A. Wright, M.P.—Answers decidedly in affirmative.

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2. Is the Canal sufficient for the present trade passing through it?

James Shaw, jr., Smith's Falls.—Yes; and for twice the trade.

B. Tett, M.L.A., Ontario.—Believes that had the Canal been kept up in the same state of efficiency as was the case when it left the hands of the Ordinance Department, it would have been sufficient for present trade.

Hiram Easton, Merrickville.—Answers in the affirmative.

W. H. Fredenburgh, Westport.—The Canal would be sufficient for present trade, if the water could be kept up to navigation height.

Mr. Slater, Superintendent.—Sufficient for present trade.

Mr. Chaffey, Newboro'.—Same answer.

Board of Trade, Ottawa.—Ditto.

Board of Trade, Kingston.—Yes, if properly repaired and attended to.

John Manion, Perth.—Same answer.

Perth Town Council.—Same answer.

A. J. Russell, Ottawa.—It seems generally sufficient for the trade passing through it.

Allan Gilmour, Ottawa.—Yes; and for much more.

W. K. Dickinson, Manotick.—Ditto.

3 Are there any obstructions to the navigation of the Canal that can be easily removed?

James Shaw, jr., Smith's Falls.—Only aware of obstructions arising from scarcity of water during the summer.

B. Tett, M.L.A., Ontario.—The greatest obstruction is at the Isthmus which passes through a Canal cut between the Upper Rideau and Mud Lakes—a distance of about ¾ of a mile in length. For some years past the dam at the Narrows lock has been leaky, as well as the upper sill of the Isthmus. On this account the water at the short cut at the Isthmus during dry summers has lowered to nearly ½ of its first or usual depth. Consequently, boats have been able to pass only half laden, the larger boats being often unable to navigate the Canal. All this may easily be remedied by making the dam at the Narrows tight, the upper sill of the Isthmus lock secure from leakage, and by digging away and blasting this short piece of Canal eighteen inches or two feet—about two-thirds being rock and one-third clay.

Hiram Easton, Merrickville.—Recommends dredging portion of Canal from Kingston Mills to Kingston—(6 miles), and buoys or signal posts where the channel is very narrow.

Two piers at entrance, of Newboro' Cut, from Little Rideau Lake, should be repaired; Cut should be either lowered or lakes dammed for reservoirs to supply water during dry season. Cuts at Killmanoch, Merrickville, Burritt's Rapids, require cleaning out.

Damming of some of lakes at head of River Tay is advisable; Big Rideau Lake depends chiefly upon this river for water.

Signal boat is necessary at head of Land Island, below Bickett's Bridge, as it is dangerous on dark nights.

R. Kernahan, Kemptville.—Also refers to want of water during dry season.

W. H. Fredenburgh, Westport.—Same answer, last season water only 30 to 36 inches in Newboro' Cut.

Mr. Slater, Superintendent.—The most serious obstructions have been the lowness of the water in the latter part of the season, and the floods in the spring. To remedy this, dams are being built at the outlet of lakes, the head waters of tributaries of the Rideau, to retain spring floods until the season of low water. The past season however, has been peculiar, and may not occur again for a long time.

J. Chaffey, Newboro'.—The reservation of water to supply Canal is very much neglected, but it would not take much money to remedy the difficulty—what is chiefly required is the attention of some one of practical experience.

Board of Trade, Kingston.—There are several places where the water has been found too shallow—these should be deepened.

Perth Town Council.—Similar answer.

A. J. Russell, Ottawa.—No doubt much could be done to increase the depth of water at dry seasons, when vessels are obstructed now and then, by damming the lakes at its sources, so as to reserve part of the surplus waters of spring. If that be not done, then the draft of boats built for the Canal should be diminished, a necessity it is desirable to avoid, as gun boats might have to pass over it and the Ottawa in the event of war.

W. K, Dickinson, Manotic.—Many minor obstructions, but they can be easily removed. For instance, the accumulations of sunken logs, loose stones and other debris in the cuts forming approaches to many of the locks; rocky Shoals on the route give a good deal of trouble, and should be removed by blasting or an increased supply of water.

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4. Is the supply of water from the summit sufficient for the present requirements of Navigation on the Canal? If not, what means can be adopted to increase it?

James Shaw, jr., Smith's Falls.—The supply of water is insufficient at times, and to increase it, it would be advisable to draw a supply from the numerous lakes which lie contiguous to the Canal and communicate with it. This should be done by the erection of dams at the outlet of these lakes, so as to prevent the waste of the water.

B. Tett, M. L. A., Ontario.—The supply is insufficient. A reservoir of water above the summit level, may easily be made for the Kingston end, by constructing dams at the outlets of Mud Lake and Canoe Lake, in the township of Bedford, and at the outlets of Loughboro' and Long Lakes, in the township of Loughboro'. In this way three or four feet of water may be saved to be let down, when required in the dry season from Devil, Mud, Birch, Desert, Canoe, Otter, Knowlton and Great Mud Lakes, embracing altogether an area of about 40 miles by 30; dams in an inefficient state exist in all the places mentioned. Such a reservoir, in his opinion, cannot injure any one, or create new claimants for damages.

R. Kernahan, Kemptville.—Suggests, as the best mode of supplying sufficient water during the dry season, damming the lakes on the upper part of the river Tay which falls into the Rideau below Port Elmsly. Then there would be nothing wanted but to get an increase of water for the lock at the Narrows and the locks at Newboro', and this could be done by draining the West Rideau Lake and one or two other small lakes. Some years ago this gentlemen measured these lakes, and was examined on the subject by a Committee of the Canadian H. A., which finally came to the conclusion that the Canal would be kept supplied with water in the way suggested.

W. H. Fredenburgh, Westport.—As the supply of water at summit level is insufficient, we recommend putting the locks and gates at Newboro', and the Narrows in a good state of repair, and raising the dam at outlet of West Rideau one foot higher. Water should be brought from Bob's Lake into the West Rideau, which can be done at a small expense after water is raised in that lake as contemplated by the dam now building at its foot. Then the surplus water can be held in the West Rideau till midsummer, and let into the summit. This would supply the summit the remainder of the season.

Mr. Slater, Superintendent.—The supply of water at summit is insufficient. If the dams were enlarged and the water retained until about August, the navigation could be maintained for vessels that do not draw more than 4½ feet of water; but several vessels require greater depth and have to be withdrawn when the water begins to fall. It has been suggested that the surplus water from Bob's Lake could easily be diverted to the West Rideau and retained in that lake, which is the chief reservoir of the summit—this would require to have the dam raised at the outlet.

J. Chaffey, Newboro'.—The greatest difficulty occurs in the autumn at the Newboro' Cut, on the summit level; here the water runs and is very much wasted each way, par-

ticularly at the Isthmus. The defects in the upper sluices of this lock will fill it every 15 minutes, besides the waste that takes place through the lower gates—reducing the water in the Cut to 2 feet 7 inches at end of past season. Simply attention and a little expense at these points, together with holding all the freshet in the spring that the works will admit of, would obviate the difficulty.

Owners of mills and manufactories might object to tapping Bob's Lake, and running the water thence to the Upper Rideau. A dam, however, ought to be built on Long Lake, for it would reserve a large quantity of water to fall into Bob's Lake and further the interest of that locality as well as benefit the Canal. As he is himself interested in this water course, he will propose to the Government to build this dam free of expense. No person would sustain any damage thereby.

Then, as to the part on the Canal from the summit level to Kingston, there are two or three things required to improve it. Mr. Rowan, of the C. L. D., surveyed in 1864 the watershed (80 square miles) emptying at Bedford Mills and Crosby Mills into Mud Lake, forming the chief supply to the Canal descending to Kingston. He (Mr. C.) knows that the damage arising from the construction of two dams to reserve these waters would be very trifling, and he proposes to build them at his own expense in a substantial manner. For two months in the year this part of the Canal is very much in want of water. Again he would rid the Canal about Lower Brewer's Cut of a few sunken logs, traverses and pieces of cord wood at the bottom.

Board of Trade, Ottawa.—Not on Kingston side of summit level. The rain and snowfall should be retained in the lakes as the sources of supply—this can be easily done on account of the peculiar topography of the district.

Board of Trade, Kingston.—Simply refer to insufficiency of water.

John Manion, Perth.—Present supply of water is not sufficient for present requirements of the Canal, but the supply for the coming season will be very much increased by the erection of the dams at the foot of Bob's Lake and Crow Lake, both of which will be completed within the next two weeks. Bob's Lake will give a surface of about 22 square miles of an average depth of eight feet summer level; Crow Lake about 3 square miles and an average depth of 18 feet. Two other dams would largely increase the supply of water—one at the foot of Long Lake, in Hinchbroke Point; the other at Elbow Lake. A large addition to the supply west of Newboro', could be obtained by erecting a new dam at Buttermilk Falls, at the foot of Devil Lake, and another dam at the foot of Mud Lake on the same stream; and further by renewing the dam at foot of Canoe Lake.

Perth Town Council.—The supply of water has been insufficient, but it is believed that the dams that are now being built on the head waters of the Tay will meet the exigencies of the Canal.

J. M. Cromwell, P. L., Surveyor, Perth.—Refers to north portion of Canal extending from Poonamalie Lock to Ottawa, which is supplied by the Lower Rideau Lake, and makes the following suggestions:—

Poonamalie Dam, which was permanently raised to 18 inches, in 1865, should be maintained to a sufficient height, and then all difficulty as to water supply would end—the maximum height is now reached without causing extraordinary damages. Contracts have been recently entered into for dams at the bottom of Bob's and Crow Lakes, both of which will be very substantial and efficacious. It will, however, perhaps yet be necessary to dam the outlet of Long Lake, which will give perfect control of all the waters of the Tay, and probably fully supply that part of the Canal through the whole summer and autumn.

It may also be necessary, in order to receive full benefit from these dams, to purchase from Mr. John Hony the entire control of Bob's Lake, which is now his reservoir for his mills. Amount already granted is fully sufficient to pay for dams now being completed, and the damages that may be caused by them, while $3,000 will probably buy from John Hony the control of the lake. In short, $16,000 will no doubt cover every emergency in connection with the water supply from the Tay.

W. K. Dickinson, Manotic.—The past supply has not been always sufficient, and this may be attributed in some degree to the want of proper care in not retaining in the several levels as much of the spring water as could be saved with safety to the works. There has also been a want of an efficient system of heightening the dams, &c. Steps in the direction of remedying this have been taken by the Department of Public Works during the past season, and favorable results are expected from this improvement, so far as affects the supply of water from the summit in the direction of Ottawa. Several inexpensive stop-log dams are being erected at the outlet of a series of lakes which discharge into the Tay. In this way a reserve of water will be retained. Similar provisions of nature also exist, and can be utilized at a small expense so as to afford similar increase to Kingston end. In this connection Mr. Dickinson refers to Mr. Chaffey, whose opinion is already given.

G. Chaffey & Bro., Kingston.—Corroborate what Mr. Chaffey says.

Edsall & Wilson.—Corroborate what precedes, respecting deficiency of water and necessity for dams.

SAULT STE. MARIE CANAL.

1. Of what interest to the commerce of the Dominion would be the construction of another Canal between Lakes Huron and Superior on the Canadá side?

D. E. McLean & Co., Montreal.—Recommend the construction of this Canal, and express the opinion that the Home Government should defray at least half the expense.

A. Waddington, (lately of British Columbia.)—Passed through the Canal several times last summer and collected a variety of information showing the insufficiency of the present work; and the urgent necessity for a new one on the Canadian side. On the latter subject he says: The ground on the Canadian side seems to have been destined by nature for that purpose—indeed, in an engineering point of view, the Canal ought to have been built there in the first instance.

On the upper side it would open into a secure bay, very different, in that respect, from the entrance to the American Canal, while at the lower end the communication with the river would be deep, commodious and secure. The ground which has been surveyed and sounded consists of gravelly earth and boulders, and would present no difficulty, unless it be from the presence of water; the Canal would be ⅓ shorter than the present one. Therefore, with the much greater safety and convenience of its approaches, its greater depth and width, and the advantage of greater speed in getting through, in consequence of its being ⅓ shorter, this Canal would have every advantage over its rival. The Canadian trade on Lake Superior at present is small, and of very recent date, and has been so far chiefly with Thunder Bay, Silver Islet and some light business with the fishing station at Point aux Pins, the Michipicoten Station, the fishing station near St. Ignace Lighthouse and Nepigon Bay. But besides provisioning the Volunteer force at Fort Garry (likely to remain there for some years) the whole of the trade of the Red River Settlement (that of the Hudson's Bay Company included) which now passes through Minnesota will naturally take this shorter route, whilst the arrival of emigrants for the North West, and the speedy settlement of that vast territory, will soon cause such an increase in the traffic on Lake Superior as altogether to change the present state of things. A railway between Fort Garry and Nepigon Bay must be accomplished in the course of three or four years, and then the whole traffic of the North West will be poured on Lake Superior. Under these circumstances we should take steps to control this trade, or else our commercial connection with the North West would be at best a matter of sufferance on the part of our neighbors; if indeed, we escaped the repetition of certain outrages in the memory of every one. For these reasons a Canal of our own is imperatively required.

Board of Trade, Ottawa.—The advantage would be unrestricted access to Lake Superior, with a coast line of 1,200 miles, and to our newly acquired territory of Red River, together with better facilities for the descent of the grain trade of the North West by the Canadian route.

Board of Trade, Kingston.—The commerce of the Dominion is well enough served by the present Canal, if its permanent use can be guaranteed; otherwise a new work on the Canadian side would be desirable.

F. S. Holcomb, Toronto.—This Canal should be built both for political and commercial reasons, especially as the location on the Canadian side is most favorable.

A. J. Russell, Ottawa.—A Canal on the Canadian side would be of very little or no interest to the commerce of Canada; but we must consider the feeling of the Americans towards us, and the probability of their shutting their own Canal, at any moment against us.

Town Council, St. Catharine's.—Recommend immediate construction of new Canal.

F. S. Holcomb, Toronto.—This Canal should also be built on the Canadian side of the river, both for political and commercial reasons. The location on our side is very favorable.

W. H. Smith, Master Mariner, Owen Sound—Thinks the increasing fleet on Lake Superior would pay two Canals.

Board of Trade, Windsor, O.—Think that it is of the greatest importance to the Commercial interests of the Dominion that a Canal should be at once constructed on the Canadian side, of dimensions equal to those recommended for the Welland, so as to make Canada independent of foreign caprice.

Allan Gilmour, Ottawa.—Does not think that the commerce of Canada requires this Canal as yet, but it may be necessary to have communication with Lake Superior through Canadian soil.

Board of Trade, Guelph.—Favor new Canal through Canadian territory.

Adam Brown, Hamilton.—After referring to necessity existing for a Canal through Canadian territory, goes on to say that it would also have a tendency to increase our revenue; as there is a large and soon will be an increased carrying trade from the shores of lake Superior, at present principally in the hands of Americans, and likely to continue so unless the work is accomplished.

Board of Trade, Hamilton.—Advocate the construction of the Canal because it would be the gate to the boundless regions on the north shore of Lake Superior, so rich in mineral resources, which must ultimately employ a very large population. Looking, therefore, to the early development of the natural wealth of that region, it would be impolitic for the Government to allow such a commerce to be subject to the caprice of any foreign power.

Ontario & Erie Ship Canal Company.—Same reply.

A. Wright, M.P.—Ditto.

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2. Are not the lock and prism of the present American Canal the largest in America?

Board of Trade, Ottawa—They are the largest.

W. H. Smith, Owen Sound.—Yes, but not too large.

Chamber of Commerce, Milwaukee.—Ditto.

Board of Trade, Hamilton.—350 feet long; 75 feet wide. The width of the Canal is at the top, 115 feet, at the water line, 100 feet, and at the bottom, 64 feet. The total length is now about 1⅛ mile, of which fifteen hundred feet at the upper end had to be cut in the solid rock. The depth of water is 13 feet, and a steamer drawing 11 feet 10 in. passed through in 1869. Fourteen or fifteen feet, however, would be more in uniformity with the size of the two locks.

In reference generally to Rideau Canal and Tay River.

Hiram Easton, Merrickville.—Strongly recommends that the work of repairing the Canal be let out by contract; that some of the lock laborers be taken off, as one man to each is quite sufficient; that each craft should supply a number of men to lock through as in case of the Grenville Canal; that the Government lands at various stations should be rented to highest bidder, whereas now, Government receives no benefit from them.

John Manion, Perth.—Calls the attention of the Commissioners to the Tay River Canal which has for a number of years been out of repair, and advises the rebuilding of the locks of this Canal, as it would open up a larger trade in mineral and lumber, and become a very important feeder of the Rideau. The trade in lumber already exists but passes by the railway to the St. Lawrence; little is yet done in minerals owing to the want of Canal transportation.

Perth Town Council.—Make a similar recommendation.

W. K. Dickinson, Manotic.—Calls attention to several points connected with the management of the Canal.

A great part of the large expenditures made in the route for the past ten or twelve years is attributable in a great measure to the postponement of the application of inexpensive preventatives. On account of the systematic procrastination of necessary repairs, many expensive improvements had, in the course of time, to be carried out.

In reference to the Sault St. Marie Canal.

Mr. Waddington.—Suggests as one of the plans for building the Canal, that the Dominion imitate what has been done by the State of Michigan. Tenders might be solicited from reliable parties stating the smallest amount of lands to the north of Lake Superior, together with their situation, for which they would be willing to construct the Canal. In this way, the Canal might be built without any disbursement in money on the part of the Dominion, and a large area of land be very soon settled and cultivated.

CAUGHNAWAGA CANAL.

1. Is it your opinion that the construction of this Canal will benefit the trade of the Dominion generally?

T. W. Winn, Montreal.—Is of opinion that this Canal would benefit trade very considerably, if it could be made without cost, but such benefits would be wholly neutralized if tolls were imposed adequate to pay fair interest on cost.

A. R. McGibbon, Montreal.—Gives a favorable reply.

D. E. McLean, Montreal.—Same reply.

Hon. Malcolm Cameron.—Ditto.

Board of Trade, Kingston.—This Canal would be a great feeder to the Welland and St. Lawrence Canals, as it would divert trade to our own channels. It would probably cheapen freight sufficiently to enable it to be carried between the West and New York by this route. Passing so close to Montreal, a great deal of trade would thence be sent seaward. The freights on timber from the Ottawa would be very much reduced, but the Richelieu River and Chambly Canal would necessarily suffer in the diminution of its trade.

Montreal Corn Exchange Association.—Refer in general terms to this Canal, but its construction would, in their opinion, render the improvement of the Ottawa River Navigation a necessity for its vast timber trade.

Town Council, St. Catharine's.—Express themselves in favor of the construction of this work.

A. M. Delisle, Montreal.—Disapproves of this work.

Board of Trade, Quebec.—Reply to similar purport.

A. J. Russell, Ottawa.—The effect of this Canal would be to turn the great trade of the West from us to foreign ports of shipment, not only to the injury of the cities of Montreal and Quebec but also to that of the Maritime Provinces, which possess extraordinary facilities for becoming the ocean carriers of that trade.

Allan Gilmour, Ottawa.—Replies in affirmative.

Adam Brown, Hamilton.—It would give a second outlet to the sea-board at less cost than the present Erie Canal system, and increase the tonnage in favor of Canadian navigation.

Board of Trade, Hamilton.—Are in favor of the Canal, if its locks and depth of water correspond with the St. Lawrence and Welland Canals.

Board of Trade, Toronto.—The committee, to whom the subject was referred, do not favor the construction of this Canal, as its benefits would be contingent upon political considerations.

Ontario & Erie Ship Canal Co., per A. Morrison.—Answer in affirmative.

Edsall & Wilson.—Answer in negative.

W. Rae, Quebec.—Ditto.

Hon. John Young.—The export trade to foreign countries from the West is not the largest trade. The consumption of the New England or Eastern U. S. is far greater than the export trade, and the question comes up :—Can this trade be also attracted to the route of the St. Lawrence? The level of Lake Champlain is 25 feet above the level of the St. Lawrence, seven miles above Montreal. By the construction of the Caughnawaga Canal of 24 miles, the propeller of 900 tons could proceed on to Lake Champlain and deliver her cargo at Burlington or Whitehall, whence it could be distributed by the various railways throughout New England, or the cargo could be landed at Boston at one-half the present cost of freight, and in six days less time than the same western produce is now delivered. By the St. Lawrence route to Lake Champlain there would be 57 miles of Canal with 355 feet lockage, against the Erie and Champlain Canals of 426 miles with 854 feet lockage. Should the State of New York decide on enlarging the Canal from Lake Champlain into the Hudson, so as to admit the propeller of 900 tons, then this vessel could sail direct from the Upper Lakes down the St. Lawrence, through Lake Champlain, and down the Hudson to New York, carrying equal to 40,000 bushels of grain without breaking bulk, and be in New York in six days less time, *than is now taken* on the route through the Erie Canal, and at one-half the cost of freight.

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2. What would be the effect of the construction of this Canal on the trade of the Cities of Montreal and Quebec?

J. W. Winn, Montreal.—Believes that the construction would rather benefit the trade of Montreal, but cannot say anything with respect to Quebec.

A. R. McGibbon, Montreal.—Believes that both cities would benefit from the impulse that the Canal would give to general trade of the Dominion.

D. E. McLean & Co., Montreal.—Know it will benefit Montreal, and Quebec indirectly.

Hon. Malcolm Cameron, Ottawa.—See answer to question 3.

Town Council, St. Catharine's.—Beneficial to both.

A. M. Delisle, Montreal.—Prejudicial to Quebec, Montreal, and Maritime Provinces; would operate upon our trade just as the Erie Canal, which taps the River St. Lawrence at Buffalo affects our commerce, by carrying nearly all the produce of the West to New York. So the Caughnawaga would operate prejudicially to Canadian interests generally by absorbing much of that kind of trade now done by way of the Lower St. Lawrence. In other words it would benefit American interests, as agitation on the subject in the United States shows.

Board of Trade, Quebec.—It may benefit Montreal, as it would give consignors of goods a choice of markets, but as far as the trade of Quebec is concerned, we prefer enlargement of the Chambly and the removal of obstructions on the Richelieu River.

A. J. Russell, Ottawa.—Argues that it would rather benefit New York, than either Montreal or Quebec.

Allan Gilmour, Ottawa.—Think it would benefit both cities. It would draw a large trade in breadstuffs, &c., down the St. Lawrence and through the Caughnawaga Canal, into

the Lake Champlain for distribution and consumption in the New England States which now obtain such supplies mainly by the Erie Canal and American railways. It would draw off some of the trade that now finds its way to Montreal and Quebec. But the very fact of a large additional trade being brought so near their doors must encourage them to secure a portion of it, and receive some benefits from it.

Board of Trade, Hamilton.—Answer emphatically with respect to Montreal, which is the great Canadian depot for grain and provisions, at the foot of Lake and River navigation, from whence the supplies can be distributed throughout the densely peopled manufacturing States of New England.

Ontario & Erie Ship Canal Co.—None whatever.

W. Rae, Quebec.—Prejudicial.

3. What particular interest would be benefitted by the construction and working of this Canal?

J. W. Winn, Montreal.—The Lumber trade would greatly benefit by the facility with which wood could be sent to Lake Champlain, New York, New England, &c.; but if heavy tolls were imposed, he believes the route by Chambly Canal would be preferred as the cheapest.

A. R. McGibbon, Montreal.—The Lumber and carrying trade of the West would be benefitted, while shippers and owners would receive advantage of competing markets being opened to them.

D. E. McLean & Co., Montreal.—Similar answer.

Hon. Malcolm Cameron, Ottawa.—It would immensely increase the tolls on the St. Lawrence Canals, and fill the Grenville Canals with minerals, hoops, hop poles, railroad ties, and inferior woods that now lie waste, besides saving a dollar a thousand, and a week's time on sawed lumber. It would bring the great bulk of the far Western produce to within 9 miles of Montreal, where, if the St. Lawrence has the advantages we claim for it, the trade must centre for shipment to England, in preference to Buffalo, Oswego, and Ogdensburg.

Board of Trade, Kingston.—See reply to question 1.

Town Council, St. Catharine's.—The shipping lumber and Western interests.

Board of Trade, Quebec.—It would more particularly benefit the trade of Ontario, the St. Lawrence and Welland Canals, tolls and Western ship owners, provided the navigation laws of the United States are so altered as to permit produce destined for American Atlantic Ports to be carried to the Canal in Canadian bottoms, from ports in the United States, otherwise the main benefit would probably accrue to American interests.

A. J. Russell, Ottawa.—The chief interest that would be benefitted would be the city of New York and other American ports, inasmuch as it would preserve for them a fair share in perhaps the greater part of the trade of the West; and the Ottawa country, by reducing the cost of the transport of its timber. It would also benefit in smaller degree the trade of all the Dominion west of Caughnawaga by giving it cheaper access to New York and the Eastern States, either for shipment to Europe, or for local consumption; very much, however, would depend on the tolls the company would charge.

Allan Gilmour, Ottawa.—It would be of very great benefit to the Ottawa lumber trade (with a moderate rate of tolls) as the distance from the Ottawa to Lake Champlain would be shortened about 80 miles, with a saving of over 100 feet of lockage, compared with the present route by the Chambly Canal. So the freight of lumber between the above mentioned points would be reduced nearly, if not quite, *one dollar* per mile, which, on the quantity now sent forward from the Ottawa to Lake Champlain, about 250,000,000 feet *B. M.* would make a large saving to the trade.

Adam Brown, Hamilton.—The Ottawa lumber trade.

Board of Trade, Hamilton.—The agricultural, commercial and shipping interests of the Dominion would be all benefitted. It would also relieve the Lachine Canal of a portion of the lumber traffic which now causes so much interruption to lake vessels.

Ontario & Erie Ship Canal Co.—The Ottawa lumber trade.

W. Rae, Quebec.—The River St. Lawrence, when deepened, will be more than sufficient to carry the trade of the West, and the folly of tapping it at the head of Ocean Navigation is evident. No great interest can be really benefitted by the construction of this work.

Hon. J. Young.—The products of the Ottawa Valley will be greatly increased in value, for the saving in transport in lumber alone by that route over the present one will not be less than $1 per mile, and all such saving increases the annual value of the national wealth.

RICHELIEU RIVER AND CHAMBLY CANAL.

1. Is the capacity of the locks on the Canal and River sufficient for the wants of the trade?

A. R. McGibbon, Montreal.—Considers this work quite too small for any extensive trade; but if the Caughnawaga were built, there would be no necessity for the enlargement of the former.

D. E. McLean & Co., Montreal.—Would not touch this Canal if the Caughnawaga were built.

Montreal Corn Exchange Association.—The completion of this work would entirely obviate the need for the enlargement of [illegible]bly.

Board of Trade, Quebec.—Negative answer.

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2. Are there any obstructions in the River and Canal which require to be removed to facilitate navigation?

Board of Trade, Quebec.—River requires dredging in several places.

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3. Can you suggest any improvements for the river or Canal, which ought to be made in the interests of commerce?

Board of Trade, Quebec.—In addition to improvements in Richelieu River, the Chambly Canal should be enlarged to at least 8 feet.

OTTAWA CANAL.

1. Of what benefit to the commerce of the Dominion would be the construction of a Canal, giving eight feet of water from Lake Huron via French River, Lake Nipissing, and the Ottawa River to Montreal?

J. H. Ingersoll, St. Catharine's.—Is of opinion that no sailing vessel would take this route, either for cheapness or despatch (even if no tolls were exacted), when we consider the cost of towage, wear and tear to vessels, and time occupied in a tedious and tortuous river and Canal navigation; for, allowing that a vessel could make three miles an hour, and was only detained twenty minutes at each lock, it would take seven days to reach Lake St. Louis from Lake Huron, to which must be added another day for remaining voyage to Montreal. Bases his opinion on survey of route made under superintendence of Board of Works.

J. W. Winn, Montreal.—Expresses himself most unequivocally in favor of this proposed work.

Hiram Easton, Merrickville.—Refers to benefit of Canal to lumber trade, and thinks it preferable to railways for the development of a splendid country.

A. R. McGibbon, Montreal.—Does not think such a work would materially benefit commerce.

Hon. Malcolm Cameron, Ottawa.—It would give Canada a back-bone, open up new timber districts, furnish enormous, unlimited water-power, develop valuable mines of iron, lead, plumbago, talc, and phosphate of lime. Marbles of great variety, pure and white as Carara, and varigated as other Italian marbles are. During its construction it would put 50,000 settlers into the valley, and on the streams that flow into the Ottawa. It would shorten the route from Chicago to Quebec at least 400 miles, and so command a large proportion of Western trade, besides creating an export trade in sawn lumber westward. In concluding, Mr. Cameron recommends devoting our public lands to the construction of these works.

Board of Trade, Ottawa.—This route for the trade of the West and North West would be fully *one-third* shorter than any afforded by existing outlets. See reply to question 6.

Board of Trade, Kingston.—Think this Canal should not be built for a long time to come.

Town Council, St. Catharine's.—Similar answer.

Board of Trade, Quebec.—Think this work of the greatest importance to the trade of the whole Dominion.

Mr. Little, Toronto.—See answer to question 3.

A. J. Russell, Ottawa.—If the external commerce of the Dominion be considered—that is to say, the receiving and movement of the through trade of the Western and North Western States, already so enormous, the warehousing and carriage of it to European and other markets—then the benefit would be very great indeed. The future trade of our North West Territories must also be considered. It would convert all the falls which are now obstructions to navigation into mill sites as valuable for the manufacture of sawed lumber, as those of the Chaudiere at Ottawa. It would also

be valuable for all other purposes of machinery besides, especially for milling the grain of the West into flour on its way to market. Towns and villages would spring up at these falls, and near the mouths of the principal tributaries. The total cost incurred by the Ottawa lumberers for one year's business, apart from expense of shipment may now be put down at over $8,500,000. The outlay for pork and flour would be over $1,500,000. Now, when it is considered that the transport of all this and other freight costs six times, at least, as much as it would do as if the river were canalled, the peculiar benefit that internal commerce of the Provinces would derive from this work will be better understood.

Allan Gilmour, Ottawa.—The construction of this Canal may fairly be expected to benefit the commerce of the Dominion by the increased facilities and inducements it would give to the settlement of the country on the Upper Ottawa and French River, and the facilities which would be afforded to the lumber trade in the forwarding of supplies to the neighborhood of the localities, where it is now carried on, and in its extension into regions now undeveloped; yet a large proportion of this land, in his opinion, will not be found of such a character as will induce settlement thereon to any great extent at the present day, or so long as really good agricultural lands can be had elsewhere at low prices, or as free grants.

Adam Brown, Hamilton.—Entirely opposed to any system of Canal navigation that would not admit of vessels of the largest capacity combining the system of lake and ocean navigation.

Geo. Wilson, Port Dover.—Thinks it would be of no benefit.

Board of Trade, Hamilton.—This Canal is not wanted at present for the commerce of the Dominion. The cost of such a work would be enormous. It is far too north for early resumption of navigation in the spring, and would be closed too soon in the fall The money would be better expended in improving our present Canals,

Board of Trade, Toronto.—Fail to see the propriety of constructing this Canal, considering the shortness of the navigation season.

Edsall & Wilson.—Not wanted for the next fifty years.

A. Wright, M.P.—This route would shorten the voyage between Montreal and Chicago by one-third of the whole distance that has now to be traversed.

W. Rae, Quebec.—Is in favor of the construction of this Canal as soon as possible.

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2. What saving of freight would result in the carriage of the products of the West and North West by this route to Montreal, on such depth of water as against the Welland and St. Lawrence Canals, as they now are, or supposing the Welland to be enlarged to a capacity suitable for the largest vessels now trading on the Upper Lakes?

J. W. Winn, Montreal.—Shortness of distance, and freedom from exposure to storms, as compared with the route through Lakes Huron, Erie and Ontario, would seem to insure a material saving in freight, besides, one steamer of small power could tow many barges from Montreal to Mackinaw, or Sault Ste. Marie, whence towage or sailing through Lake Michigan or Superior would not cost much time or money.

Board of Trade, Ottawa.—Fully one-third.

Town Council, St. Catharine's.—None whatever.

A. J. Russell, Ottawa.—Refers to Mr. Shanly's report, which gives the cost of moving freight per ton from Chicago to Montreal by this route, at $2.89, while it would be $3.20 and $3.27 for the St. Lawrence and Welland Canals, and the Toronto and Georgian Bay Canal respectively.

Board of Trade, Windsor, O.—Are of opinion that the Ottawa Canal could not compete with the St. Lawrence and Welland when enlarged.

Chamber of Commerce, Milwaukee.—Consider Welland most desirable.

Allan Gilmour, Ottawa.—Conceives the answer to this question will depend almost entirely upon the solution of the problem, whether the product of the West and North West can be conveyed thereby more cheaply and expeditiously to Montreal or Quebec, than by the Welland Canal and St. Lawrence; unless that can be shewn, beyond a doubt, no sufficient inducement would be offered for the construction of an Ottawa Canal. The distance from Chicago or Milwaukee to Montreal would be about 370 miles shorter by the Ottawa and French Rivers, than by the Welland and St. Lawrence Canals. But against this there would be the extra lockage by the Ottawa of eighty-three feet up to reach the summit level, and the same descending, together 166 feet more than by the St. Lawrence route. How far these advantages and disadvantages would balance each other or predominate, only those well acquainted with Canal navigation can determine. Again there is the fact of the wider waters of the lakes on the St. Lawrence route, with the drawback of greater risk or higher insurance than by the Ottawa, especially late in the season.

Board of Trade, Chicago.—If enlarged, the Welland Canal route would probably be the cheapest.

Adam Brown, Hamilton.—If the Welland and St. Lawrence Canals were enlarged so as to admit of the passage of large vessels, it would be useless to take any other system to connect with the Upper Lakes into consideration, as the expense of keeping up any other system of Canal navigation would be out of proportion—taking the expense of Canal mileage into consideration.

G. Wilson, Port Dover.—None.

Board of Trade, Hamilton.—There would be no saving of freight by such a route, even under existing circumstances. In the case of the enlargement of the present system it could not possibly compete.

Alvin Bronson, Oswego.—In his judgment, the Welland stands at the head of the numerous projects presented for discussion by the Commissioners in point of utility, compared with the French River and Ottawa Canal, and the Lake Huron and Ontario Canal. It has the advantage over both in latitude, altitude, amount of lockage and length of Canal. Each of these Canals require more than double the lockage, and more than double the length of the Welland.

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3. Supposing the amount necessary to enlarge the Welland Canal to the capacity of the largest vessels navigating the Upper Lakes, if expended on the Ottawa Canal, would give a continuous depth for barge navigation of eight feet, which would be the preferable investment?

J. W. Winn, Montreal.—Is in favor of the Ottawa, because it would bring a larger share of the traffic of the Western States through Canada, and furnish a second route in case of war or accident to the Welland, which would stop its navigation.

A. R. McGibbon, Montreal.—Expresses himself in favor of the Welland route.

Board of Trade, Ottawa.—Answer emphatically in favor of the Ottawa Canal.

Town Council, St. Catharine's.—Answer in favor of the Welland.

James Little, Toronto.—The Welland Canal is known to be some three hundred and seventy miles further between Chicago and New York, than would be the route by the Ottawa. All other things being equal, the difference in cost between enlarging the one and constructing the other, is not a matter of sufficient importance to be allowed to stand in the way when the volume of commerce to be opened up, is to be taken into consideration. The opening up of the Ottawa will ensure to the country a much larger amount of the benefits arising from the moving of products than the Welland, and while the enlargement of the latter will open up no new section of the country, the Ottawa will at once bring into market the timber, and promote the settlement of the vast Territory drained by the Ottawa, Matawan, and French Rivers—a distance of 330 miles from the city of Ottawa to the Georgian Bay—equal in length to the Erie Canal, and sufficient of itself, from its agricultural, timber, and mineral wealth, and the enormous amount of water power it would make available to overbalance any difference of cost that might accrue. Unlike the Welland, which had to wait on the agricultural development of the West, the Ottawa route would at once force business to itself on account of its immense advantages over every other route. It would leave the Erie Canal just as the completion of the St. Lawrence Canals has left the Rideau—simply dependent on the local traffic, and what it could gather from the shores of Lake Erie, and even there it would meet the competition of the Welland. It would be without a rival for the Western commerce, as no Canal can ever be constructed through the United States with a tithe of its advantages, even at the expenditure of hundred millions of dollars. Other advantages may be summed up as follows:—

1. It would open up a far safer and more capacious route than any other in use or contemplated.
2. It would effect a saving of time equal to two full trips, according to Mr. Shanly—possibly to three.
3. It would afford direct communication, without breaking bulk, between Lakes Superior, Michigan and Huron, and the head of ocean navigation at Montreal, and by the Caughnawaga to the head of Lake Champlain, within about 60 miles of steam navigation on the Hudson.
4. It would possess immense advantages for the timber trade of the Georgian Bay, the valley of the Saginaw, the whole northern peninsula of Michigan, and Green Bay.
5. It would give but a short lake run to reach the shelter of Manitoulin at either end.
6. It would leave the Welland undisturbed to do the business of Lake Erie and other ports that would make Oswego their distributing points; and above all, it (the W.) would supplement the overtaxed Ottawa route, for the latter, soon after its completion, would certainly have more than it could do to meet the requirements of the 17,500,000 of people of the great grain-producing country of the West, ever seeking a way to the points of distribution and consumption.

In conclusion, Mr. Little says that the locks should be not less than those proposed by Mr. Shanly, viz., 250 feet long, 50 feet broad, 10 feet deep. The difficulty of access to and of finding the material for cut stone locks—of distributing it as well as other material and necessaries at the points of requirement, especially on the line of the

Mattawan and French Rivers, would seem to be serious objections to the adoption of the Ottawa route; but when it was remembered that the Rideau improvement, when made, was in a somewhat similar position, and that $24,000,000—the interest on which the City of Montreal alone might well pay, on account of the benefits it would receive—would complete the work, these objections might be summarily set aside.

A. J. Russell, Ottawa.—The Welland would not do anything to develope our interior country of Quebec and Ontario, whilst the Ottawa would certainly do so.

Board of Trade, Windsor, Ontario.—Argue in favor of Welland route.

Chamber of Commerce, Milwaukee.—Argue in favor of Welland route.

Board of Trade, Chicago.—The Welland.

Adam Brown, Hamilton.—No system of navigation should be taken into consideration that would not allow of steamers of a large class passing to Lake Superior.

George Wilson, Port Dover.—The Welland.

Board of Trade, Hamilton.—The Welland.

Board of Trade, Toronto.—The Welland.

Ontario and Erie Ship Canal Co.—The Welland.

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4. Suppose the French River were made navigable from Lake Huron to Lake Nipissing and a railway were built from the east end of Lake Nipissing to Montreal, or supposing a railway were built from Montreal *via* Ottawa to Parry Sound or any other port between it and the mouth of the French River, how would such railway answer the purposes of the trade to be done on the proposed Ottawa Canal?

J. W. Winn, Montreal.—Apprehends that no railway can compete with Canals in the vital point of cheapness of freight.

Hiram Easton, Merrickville.—Believes a Canal would be more advantageous to the development of the country than any railway. Three barges, drawing 8 feet of water (with lockage equal to that of Lachine), would carry as much lumber as 130 cars. It would take three heavy locomotives to draw these cars, while one small tug will tow 9 barges—390 cars and 9 locomotives. Draw a comparison between the actual cost of said freight, and the expense of a small tug with nine barges, and an argument will be derived in favor of Canals.

A. R. McGibbon, Montreal.—A continuous line of navigation without transhipment has so many advantages over a water and railway line, that it should always be preferred.

Board of Trade, Ottawa.—Such a railway would be useful locally, but could not pay for many years to come. Fourteen railways would be required to do the freight business of the Canal.

A. J. Russell, Ottawa.—A few figures will show the difference. The freight of sawed lumber from Ottawa to Plattsburg on Lake Champlain costs $3 per 1,000 feet, board

measure; the distance is 260 miles. The transport to Brockville from Arnprior, by the Brockville and Ottawa Railroad, costs $2 per 1,000 feet; the distance is 70 miles; shewing that the cost by rail is 2½ times that by canalled rivers. Yet of the 260 miles, there are 26 miles of Canals, with 208 feet of lockage. One Canal of moderate size would carry as much as five railways, and one railroad could not possibly perform the work required of it, even if the expense of transport would be the same; besides, it is conclusively evident that if a railway were sufficient to carry the contemplated trade of the West instead of a Canal, the Northern Railroad would be sufficient for it instead of a Canal from Toronto to the Georgian Bay—the intended object of that Canal would be already achieved, and the railway would now be successfully engaged in doing all that the advocates of the Georgian Bay contemplate and indicate as required to be done, which is even absurd to mention. It is still more absurd, if possible, when applied to the Ottawa, which is intended, just like the Georgian Bay Canal, to tap that bay for the purpose of taking the same trade, especially when coupled with the condition of canalling the French River, exactly that part of the route which has no trade of its own at present, and leaving the Ottawa uncanalled, though it has already a great trade of a bulky kind to carry, requiring, more than ordinary commerce does, a Canal for economy of transport.

Allan Gilmour, Ottawa.—Does not think that such a joint arrangement of Canal and railway or all railway would at all answer the purposes of the trade to be done on the proposed Ottawa Canal.

Board of Trade, Chicago.—So far as American commerce is concerned, a railway would not answer at all.

Adam Brown, Hamilton.—The proposed railway might answer, but we must, to a great extent, rely on the great chain of lakes which nature has provided.—He regards it, however, as out of the question to suppose that a railway could compete for the trade, and be successful—*i.e.*, pay its proprietors—against such system as the St. Lawrence and Welland Canals and lake navigation.

Board of Trade, Hamilton.—The mouth of the French River and any other part of the Georgian Bay are undesirable as the terminus of a railway or the entrance of a Canal, for the navigation of the Georgian Bay is attended with great insecurity, and is even dangerous from fogs in spring and fall, subjecting property on its water to a higher rate of insurance than on any of the other lakes. The bold character of the shores on the Georgian Bay is a serious obstacle to their safe approach, and the great depth of water aggravates the difficulty by practically preventing the free use of the lead.

Board of Trade, Toronto.—Consider the railway decidedly preferable from Montreal to Parry Sound.

Ontario & Erie Ship Canal Co.—American trade would not go that way.

A. Wright, M.P.—No railway could do the freight business of the Ottawa Canal.

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5. Would the construction of the proposed Ottawa Canal in any way reduce the cost of floating or carrying timber from points on the Upper Ottawa?

J. W. Winn, Montreal.—Answers in the affirmative.

A. R. McGibbon.—Says that it might not have the effect of lowering the actual cost of transit, but it would enhance the value of sawn lumber when brought to market without being floated or rafted.

Board of Trade, Ottawa.—Materially.

Town Council, St. Catharine's.—It might to a small extent.

Allan Gilmour, Ottawa.—Does not think the Canal would reduce the cost of floating timber from points on the Upper Ottawa, because little, if any, would pass through it.

Board of Trade, Hamilton.—Answer in negative.

A. Wright, M. P.—It would benefit the timber trade by opening a new market for it in the West and North West—thus providing a return freight. It would also assist the trade by reducing the exportation of square timber and increasing that of manufactured lumber.

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6. Is it probable that the tolls derivable from the trade on this Canal would pay a reasonable rate of interest on the outlay necessary for its construction?

J. H. Ingersoll, St. Catharine's.—The country through which it passes is at present very sparsely settled, and the tolls and rents derived from local traffic would be trifling for some years to come. Neither would it attract a large share of the trade of the States of Iowa, Illinois, Wisconsin, or the Lake Superior region as anticipated, for it would not open up to the merchants of Chicago and Milwaukee their own ports on Lake Ontario, and lies at least so far North that it would not be open in spring for at least three or four weeks after the Welland and Erie Canals.

J. Winn, Montreal.—Believes that tolls could scarcely be expected wholly to pay interest on cost of such a work; but from the vastness of traffic they might go far towards accomplishing that end, while the enhanced value to public lands along the line of the Canal would probably repay much of the cost.

A. R. McGibbon, Montreal.—Scarcely thinks it probable.

Board of Trade, Ottawa.—Tolls would pay more than a reasonable rate of interest, as it is not easy to conceive how the traffic of the West and North West is to find a passage to the sea-board except down the Valley of the Ottawa. The enlargement of the Welland must be at an immense cost, seeing that there are 28 miles of continuous excavation, some of it over 60 feet in depth. (Public Works, 1867, p. 24, ch. 59.) In short the country has to consider whether it is best to reconstruct 72 miles of Canal to the largest dimensions required to benefit the lake traffic, at a cost probably of $40,000,000 or to build the Ottawa Canal of 30 miles at a cost of $25,000,000—all other things being equal, the advantage in cost, time, and freight being fully more than one-third in its favor. Besides, the freight coming down Lake Superior will not run the whole risk of lake navigation, through Huron, St. Clair, and Erie, with the certainty of passing 72 miles of Canal before its voyage is ended, when the same object can be subserved by making use of 30 miles of Canal, and saving a distance of 418 miles. Then, the acquisition of the North West Territory opens up a new phase of this question. Heretofore it was the trade centering at Chicago that the people were anxious to control; now it is the trade centering at Duluth. This place is at the head of navigation by the Mississippi to the Gulf of Mexico on the South, by the Red River to Hudson's Bay on the North, by the Lakes and the St. Lawrence to the Atlantic on the East. Its position is far better than that of Chicago, as it connects the trade in every direction—has Minnesota, Dakotah, and Red River tributary to it. Minnesota in 1870 had 20,000,000 bushels of wheat for export, and yet only one-twentieth part of her 40,000,000 acres of her rich prairie land is peopled.

This increasing wealth must to a large extent find its way by Duluth, and would come down by the Ottawa. Besides, the Ottawa route affords a return freight in lumber—the great want of the North West. The Ottawa also furnishes the advantage of having grain manufactured on the down voyage in the cheapest possible manner. Its Canals not being continuous but detached—the greatest length being three miles—the cost of unloading and manufacturing would not be more than half that on the St. Lawrence, where the power does not exist immediately. Besides the Canals on the Ottawa, a noble territory for settlement will be opened up. Nor must the question of defence be left out of the account. The Ottawa Canals will be entirely within Canadian territory and beyond the reach of foes, besides furnishing a line of defence, a base of supplies, and a safe channel for commercial purposes. In concluding their lengthy paper the Board of Trade say, that attention should be turned to the construction of the main lines viz.; Sault Ste. Marie, Ottawa, and Bay Verte Canal, before anything is done in the way of touching the present works.

Town Council, St. Catharine's.—Are confident they would not.

Board of Trade, Hamilton.—Answer in negative.

W. Wright, M. P.—The tolls would pay many more times than the value of the reasonable interest on outlay—not to speak of the development of the trade of the country. Ordinary third-class lumber now sells at $30 per thousand feet in Minnesota. If the Canal were opened we could send it there at an immense profit at $15 per thousand feet. There is also the undeveloped trade of that State, which has 20,000,000 bushels of wheat this year for exportation and nearly 30,000,000 acres of the finest agricultural land in the world to be developed. The natural outlet of this fertile district is by way of Superior and the Ottawa, the shortest route to the sea-board. Adjoining Minnesota is the territory of Dakotah of similar extent, and then there is the Red River country with 50,000,000 acres. So, if the Canal were open to-morrow, its capacity would be at once put to the test.

In reference generally to the Caughnawaga Canal.

D. E. McLean, & Co., Montreal.—Advise that this Canal be of the same capacity as the St. Lawrence works.

A. J. Russell, Ottawa.—Whilst referring to the advantage that the construction of this Canal would confer on the general trade of the Dominion, acknowledges that it would probably do as much injury as good to the city of Ottawa, as the working of the Canal would interfere with the free running of saw-logs down to its mills, and many goods which are now landed there would be carried up to other depots nearer their places of final destination.

ST. ANNE'S LOCK.

Hon. J. J. C. Abbott.—States from personal knowledge that an improvement of the St. Anne's Rapids, either by the elongation of the Canal, commencing at a point below and extending to the point above the shoals in the neighborhood of those rapids, or by the dredging out of those shoals, would be of undoubted importance.

At present the difficulties to navigation in the ascent and descent of cargoes at St. Anne's are very great; and the necessity of improvement is obvious from the fact that the traffic which passes that point has become of enormous magnitude.

SHUBENACADIE CANAL, N. S.

Lewis R. Fairbanks, Dartmouth, N. S.—Submits plans and reports respecting the Shubenacadie Canal which extends from Halifax harbor in a direction due North across Nova Scotia to the Basin of Minas, or a distance of (54) fifty-four miles, and refers briefly to the inexhaustible deposits of coal, gold, iron, gypsum, lime, granite, freestone, slate and forest products along the route of this work.

GEORGIAN BAY CANAL.

1. What effect would the construction of the proposed Canal have on the general trade of the Dominion?

J. W. Winn, Montreal.—Does not think any large benefit would result.

A. R. McGibbon, Montreal.—Is strongly of opinion that the construction of this work would greatly increase the trade in produce, between the West and sea-board by lessening the time and cost of transportation. Much of the freight now carried via Buffalo would take the Georgian Bay route to Rochester and Oswego, and consequently the general trade of the Dominion would be benefitted. Besides, considerable trade, which now goes to Europe by Boston and New York, would take the shorter and more direct St. Lawrence route.

Kingston Board of Trade.—It is not desirable that the Canal should be built for a long time to come; it cannot pay directly or indirectly.

David Burn, Cobourg.—Is of opinion that this Canal is projected chiefly for the special benefit of the Americans of the West, and Chicago in particular.

Town Council, St. Catharine's.—It would have no effect on the general trade of the Dominion.

F. S. Holcomb, Toronto.—Apart from engineering difficulties, it was clearly proved at a Board of Trade meeting at Toronto, that at the rate of tolls named, and with a vessel to lock up and down every half-hour it would not pay simple interest on the investment. Under all the circumstances he thinks the other route deserving of the first consideration.

A. J. Russell, Ottawa.—Shows, that as there is no existing trade of great magnitude on Georgian Bay and as the small extent of country it would traverse is already served by a railroad, this Canal could only be of importance to the great trade of the

Western States, and what in future might arise from our Western territories; nearly equalling the Ottawa Canal in that respect, but being incomparably inferior to it as respects the internal trade of the Dominion.

No doubt it would largely benefit the trade of the United States, and it would feed, instead of rivalling, its Canals and railways.

W. Miller, Mayor, Owen Sound.—Expresses the opinion that this Canal, *if practicable*, and with a depth of water uniform with the St. Lawrence Canals, would in all probability, become the great highway for the carrying trade between the West, North West and ports on Lake Ontario and the St. Lawrence.

Board of Trade, Windsor, O.—Believe a self-sustaining Canal is impracticable, and if made would almost exclusively benefit American interests.

Allan Gilmour, Ottawa.—From what information he has been able to gather respecting this work, he is of opinion that it is a wild, impracticable project, and that from the enormous amount it would certainly cost, estimated by its promoters at nearly $40,000,000, it would never pay.

Adam Brown, Hamilton.—Says there would *be good times whilst the money was being sent*, and that it would not materially affect the trade after it was built.

Board of Trade, Hamilton.—It would have little or no effect upon general trade.

Board of Trade, Toronto.—The Committee to whom this subject was referred are divided in opinion as to the advantages or otherwise of this Canal. The Toronto Board of Trade condemned the measure at a general meeting held on the 20th January, 1869, but a respectable minority entertain a strong opinion in favor of its construction.

Ontario & Erie Ship Canal Company, per Mr. A. Morrison.—None; the trade would go to Oswego and down the St. Lawrence in the same way as it does now after passing through the Welland Canal.

Edsall & Wilson.—Characterize the scheme as "a grand humbug, got up by a class of men who would build public works to every man's door."

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2. How much time would be saved by steam and sail vessels, respectively, between the ports of Chicago and Fort William and the port of Kingston, by using the proposed Georgian Bay Canal, instead of the Welland Canal?

Town Council, St. Catharine's.—None.

Board of Trade, Chicago.—Depending on weather, sail vessels would save from nothing to three or four days.

Adam Brown, Hamilton.—No time would be saved by sailing vessels, owing to the slow process of canalling; and steamers would be little or no better as the extra time taken in Canal navigation, under the usual restrictions of Canal Board management would be more than compensated by the extra speed at which vessels could navigate on the chain of lakes *via* the Welland Canal system.

Geo. Wilson, Port Dover.—Much time could be saved by sail vessels; very little by steam.

Board of Trade, Hamilton.—No saving of time by either steam or sail would be made by using this canal in place of the Welland, but, on the contrary, it is believed that, from the insecurity of the navigation of the Georgian Bay, and the great length of the Canal itself, there would be a great loss of time.

Erie & Ontario Ship Canal Co.—Two or three days, but generally this would depend on number of locks and weather.

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3. What is the average time occupied in locking vessels through each lock of the Welland Canal and through the whole Canal?

Town Council, St. Catharine's.—Average time occupied in locking vessels through each lock is half an hour, and it takes steamers 20 hours, and sailing vessels 30 hours to go through the whole Canal.

Geo. Wilson, Port Dover.—20 minutes, each lock. 24 hours, whole Canal.

Board of Trade, Hamilton.—20 minutes, each lock. 22 hours for steam, whole Canal. 24 to 48 hours for sail, whole Canal.

Erie & Ontario Ship Canal Company.—20 minutes, each lock. 18 hours, whole Canal.

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4. At the same rate, how much time would be occupied in locking vessels through the proposed Georgian Bay Canal.

Town Council, St. Catharine's.—It would take steam vessels three, and sailing vessels four days to go through.

George Wilson, Port Dover.—72 hours.

Erie & Ontario Ship Canal Co.—Depends on number of locks.

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5. Suppose tolls to be charged on the proposed Georgian Bay Canal in proportion to its length, at the rate now charged on the Welland Canal, what would be the total amount of such tolls on a cargo of 500 tons of wheat?

Adam Brown, Hamilton.—If the mileage tolls be the same as on the Welland Canal, and taking towage into consideration it would be impossible to bring the trade in this way, as the vessels could not, in his opinion, pay expenses.

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6. What revenue would be derived from such tolls on the proposed Georgian Bay Canal, supposing the whole of the produce of the West, now shipped through the Erie and Welland Canals, were shipped through the proposed Georgian Bay Canal?

Town Council, St. Catharine's.—A large revenue.

Adam Brown, Hamilton.—See question 1.

7. Would vessels having to pay tolls *pro rata* with the Welland Canal, sailing from ports on Lake Michigan or Superior, find it more profitable to take the proposed Georgian Bay Canal—or the Welland?

A. R. McGibbon, Montreal.—Speaks, in general terms, in favor of the Georgian.

Town Council, St. Catharine's.—The Welland.

Board of Trade, Chicago.—Sometimes the one, and sometimes the other; depending on freight and weather.

Adam Brown, Hamilton.—No vessels would pass through; the tolls and towage would eat them up; they would be compelled to take the Welland route.

Alvin Bronson, Oswego.—Says that the Welland is the preferable undertaking.

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8. In either case what amount per cent. would such profit represent?

Town Council, St. Catharine's.—24 per cent. in favor of the Welland.

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9. In the present state of the United States' Customs' and Navigation Laws, could Canadian vessels load grain at Chicago, and proceed through the proposed Georgian Bay Canal, and thence to Oswego, or other United States' ports without paying duty on such grain, as if it were the product of Canada?

Town Council, St. Catharine's.—No, not even by the payment of a duty.

Board of Trade, Chicago.—Presume it might be passed through in bond.

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10. If an American or a Canadian vessel load grain at Chicago and proceed *via* the proposed Georgian Bay Canal, and tranship such cargo at any port on the said proposed Canal, can either an American or Canadian vessel re-ship such cargo and deliver the same in Oswego or other United States' port, without the grain being liable to the American duties?

A. R. McGibbon, Montreal.—In replying to this and foregoing questions, says that much will depend upon the views of the American Government and their orders to Customs' officers. From present appearances the interests of the Dominion will not be considered in matters of this kind. The navigation laws of the U. S. prevent the employment of foreign bottoms in the coasting trade.

Town Council, St. Catharine's.—An American could, but a Canadian could not do so.

Board of Trade, Chicago.—Think it would be regarded as a coasting business; in that case Canadian vessels would be shut out.

Erie & Ontario Ship Canal Co.—Probably it could be bonded and re-shipped by an American vessel.

11. What effect would the working of the proposed Georgian Bay Canal have on the traffic of the Northern Railway Company, or on the trade of the city of Toronto?

A. R. McGibbon, Montreal.—The Northern Railway would probably lose a portion of its heavy freight, but otherwise its traffic, especially in passengers, would be increased.

David Burn, Cobourg.—Toronto would be deprived of the advantage she is likely to receive from the enlargement of the St. Lawrence Canals—of becoming the Great Western terminus of Ocean navigation. She would be reduced to the place of a second rate commercial city, similar to that which Natchez now occupies in relation to New Orleans, and Chicago would become the Great Western Emporium.

Town Council, St. Catharine's.—It would certainly injure the Railway.

A. J. Russell, Ottawa.—No doubt the contractors and their suppliers, and the share speculators, will be benefitted by the construction of this Canal, but it would certainly injure the people of Toronto, inasmuch as it would deprive that city of the advantage of being the exclusive depot of the back country as it is now, and take trade away from the Northern Railway.

Adam Brown, Hamilton.—It would hurt the traffic of the Northern Railway without giving corresponding advantages to the city of Toronto.

Erie and Ontario Ship Canal Co.—The proposed Southern terminus being at the Humber River, 5 miles from Toronto, the benefit is questionable.

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12. Would the lumber, grain, flour, &c., now carried over the Northern Railway, and shipped by water or rail at the Port of Toronto, in the event of the proposed Canal being worked, continue to be so carried and shipped, or would such trade be done at ports on the Canal, or on Lake Sinicoe, and so cut off the business of the Northern Railway Company and the City of Toronto to the extent of such trade?

A. R. McGibbon, Montreal.—If the Canal offered greater facilities and lower rates than the Railway, doubtless it would attract the trade in those articles; but in any case Toronto would be benefitted.

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13. Suppose it was found that the Georgian Bay Canal could be built cheaper *via* the Humber River, or by way of the Beaver Lake, and Lake Scugog to Whitby, would the Canal on either such route affect its commercial value to the city of Toronto, and how?

A. R. McGibbon, Montreal.—Any line that would divert the trade from Toronto to Whitby, would necessarily have an injurious effect upon the commerce of the former.

Adam Brown, Hamilton.—Same reply.

14. Do you believe a private company could obtain the capital necessary to complete such a work on its own merits, considering the risk of its use, without the guarantee of the Government for the payment of the interest and principal invested in such Canal?

A. R. McGibbon, Montreal.—Understands that there are capitalists prepared to construct the work upon the grant of lands by the Government, without guarantee of principal or interest.

Board of Trade, Chicago.—Answer in negative.

Adam Brown, Hamilton.—Ditto.

Board of Trade, Hamilton.—Believe that no private company has the slightest chance of obtaining the capital necesssary to complete such a work, without the assistance of the Government in the shape of a guarantee for the payment of the interest and principal invested in such a work. If the Government were disposed to undertake the construction of a Canal across the western peninsula of Ontario, the most eligible route would be found running from Goderich to Dundas and then following the Desjardins Canal to Burlington Bay, the head waters of Lake Ontario, and one of the finest natural harbors in the Dominion * * * * * * The cost, however, would be undoubtedly large—perhaps $100,000,000—and looking at the uncertainty attending such an investment, it would almost look like insanity on the part of the Government if they were to entertain either project.

Erie and Ontario Ship Canal Co.—Not for 20 years to come.

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15. How would the carriage of American produce, in American bottoms, from Chicago through the Georgian Bay and other Canals, without transhipment to other ports in the United States or to Europe, benefit the commerce of the Dominion?

A. R. McGibbon, Montreal.—The mere passage of American bottoms would of course add to the revenue of the Canal, and undoubtedly benefit the Dominion indirectly. If that route were found on enquiry to be preferable to others it would tend to increase enormously the western trade *via* the St. Lawrence with Europe and the sea-board of Canada.

A. J. Russell, Ottawa.—On the principle that trade can only benefit those between whom it takes place or who have the carriage or handling of it, and not those who merely see it passing freely, it seems utterly impossible to see how the carriage of American produce in American bottoms, from Chicago through the Georgian Bay and other Canals without transhipment to other ports in the United States or to Europe, could in any way benefit the commerce of the Dominion, beyond what might arise from the casual expenditure of the crews of the vessels in Canadian shops and taverns at the few points they would call.

Adam Brown, Hamilton.—If Canada could obtain the carrying trade from the west *via* Montreal, either in American or Canadian bottoms it would materially advance the interests of the Dominion, and to do that trade, the chain of lakes, and the Welland and St. Lawrence Canals point out the route. It would benefit the Dominion by the carrying trade, and the money necessarily spent.

Erie and Ontario Ship Canal Co.—It would add to the revenue of the Canals, and the increased traffic would benefit the commerce of the Dominion.

In reference generally to the Georgian Bay Canal.

J. H. Ingersoll, St. Catherine's.—Supposing the Canal completed, it is doubtful whether the supply of water at the summit would be sufficient, as it is a well known fact that for some years past the Grand River (which discharges a far greater body of water than any stream entering into or discharging from Lake Simcoe) was so inadequate to the supply of the Welland Canal, that the deepening of the summit level from Port Colborne to Allanburg was necessary.

David Burn, Cobourg.—Is of opinion that the political consequences resulting from the construction of this Canal would be equally injurious to the British Government as they are to the commercial interests of Toronto; for he is convinced, that if the St. Lawrence and inland waters of Canada are thrown open to American ocean-going ships, the existence of Canada, as an integral part of the British Empire, will be seriously endangered.

F. Edward, Peterborough.—Calls attention to a proposed Canal to connect the waters of Lake Huron with Ontario by way of Trent, as preferable on the score of expense and trade, to the Georgian Bay scheme. He refers to reports and movements to bring the subject before the public.

MURRAY CANAL.

1. Of what benefit to the trade of the Dominion would be the construction of this Canal, and what class of vessels would be most likely to use it?

J. W. Winn, Montreal.—This Canal could only benefit in a small way the local trade.

G. E. Jaques, Montreal.—Says that this work would be of very great value to vessels running between Montreal and the Upper Lakes, particularly to those trading to Toronto and Hamilton. It frequently happens in spring and autumn that violent gales of wind occur on Lake Ontario, and on some occasions such gales do not extend equally over its surface. When the violence of the wind obliges vessels to remain wind-bound at Kingston, the Lake at its head, near Toronto, is comparatively calm. If the Murray Canal were opened, then vessels could proceed through Bay Quinte without staying as they now do at Kingston until the storm abates. The same may be said of craft coming down the lake.

Joseph Keeler, M. P., Colborne, Ont.—The trade of the Bay of Quinte seeking western ports of destination would be benefitted by a saving of at least 20 per cent. in reduced rates of freight—the distance from Trenton, Belleville, Picton, Mile Point, and other ports to the West *via* Murray Canal being from 50 to 150 miles less than by the present outlet at Upper Gap.

The class of vessels likely to use the Canal would be those from 50 to 150 tons, drawing from six to eight feet; but of course, in the event of the deepening of Canals, a large class would be profitably employed.

Board of Trade, Kingston.—Would be beneficial to the local trade of that part of the country, but not to the trade of the Dominion generally.

Board of Trade, Belleville.—Refer to the report of Mr. Page, 1867, wherein various authorities are given to show the necessity that exists for the construction of this work, and then go on to say: Steamers and sailing vessels up to 250 or 300 tons would avail themselves of this route; it would be of unquestionable benefit to carrying trade between Kingston and Western ports, as at least four-fifths of the disasters on Lake Ontario occur east of Presqu' Isle Point. In case of war, too, its importance would be incalculable.

Town Council, St. Catharine's.—Do not think it necessary.

W. M. Platt, Brighton.—Refers to necessity for constructing this Canal in terms similar to replies of Belleville Board of Trade, and of Mr. Keeler.

Allan Gilmour, Ottawa.—Does not think that the construction of this Canal would benefit the trade of the Dominion to any perceptible extent or that it could be of much, if any, advantage to vessels trading between Kingston and Western Ports.

Adam Brown, Hamilton.—The Canal should be built, so as in rough weather, vessels could get through; when they might be in great danger outside, it would be a harbor of refuge.

Board of Trade, Hamilton.—It would be useful for the present class of vessels engaged in the traffic of the lakes, but with the increased size of locks on the Welland and

St. Lawrence Canals and a corresponding increase in the size of vessels for the trade, such a Canal would be necessary.

County Council, Hastings.—Agree exactly with what Mr. Jaques, Mr. Keeler, and Belleville Board of Trade urge in favor of the construction of this Canal, and add :—

In a national point of view we cannot help calling the attention of the Commission to the fact that it will develop a section of country and stretch of water that are exclusively Canadian, and will be useful in case defences are necessary by opening an inland communication from Kingston to Toronto, and a harbor for the navy.

Edsall and Wilson.—This Canal is not wanted.

James Brown, M.P., Belleville.—Corroborate what others have said respecting the benefits that this Canal will confer on the carrying trade.

Committee of County Council of Northumberland and Durham.—Advocate construction of Canal on similar grounds.

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2. Would the construction of this Canal be of any advantage to vessels engaged in the carrying trade between Kingston and Western ports?

J. Keeler, M.P., Colborne, Ontario.—All vessels would avail themselves of a safe harbor of 70 or 80 miles in length *in foul weather*, in preference to the dangerous coast between Presqu'Isle Bay and Kingston, where nearly all the disasters upon Lake Ontario have occurred, and where enough money has been lost to build fifty such Canals. In fine weather, however, the vessels bound for Kingston would take the open lake as most expeditious.

Board of Trade, Belleville.—Answer similar in purport to foregoing, see p. 226.

W. M. Platt, Brighton.—Same answer.

Board of Trade, Hamilton.—In the fall of the year, our present class of steam vessels could leave Kingston in place of lying over as they now do during a heavy westerly blow, run up the Bay of Quinte, go through the Canal, and, by keeping well in shore, proceed on their voyage to the head of the lake.

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3. Would the probable revenue to be derived from tolls on this proposed Canal be sufficient to pay interest on the cost of its construction?

G. E. Jaques, Montreal.—Answers this question in the affirmative.

J. Keeler, M.P., Colborne, Ontario.—Bases affirmative reply on fact that tonnage inwards and outwards of the Bay of Quinte for year ending June 30th, 1867, was over 150,000 tons; and this would be doubled if the Canal were opened, for there is a large trade to be developed in iron ore, lumber, timber, bolts, cedar posts, grain, &c.

Board of Trade, Kingston.—Answer decidedly in negative.

Board of Trade, Belleville.—Give no definite answer, but suggest that this Canal, when constructed, should be free for Canadian vessels.

W. Platt, Brighton.—Believes that the Murray Canal would be so largely made use of, that sufficient tolls would be collected to pay a reasonable interest upon the cost of construction; and is certain that it can be constructed for a sum much below the original estimate. The steam dredge can be easily used, and the entrance of Presqu'Isle Harbor is remarkably free from moving banks of sand. In a military point of view, he adds, the work is important.

Allan Gilmour, Ottawa.—Answers in negative.

Board of Trade, Hamilton.—Thinks not. Sail vessels running down in thick weather from the Welland Canal for Long Point, frequently find themselves to the West, and in the vicinity of the proposed entrance to this Canal, and a good harbor would be useful. A vessel with all hands was lost there this autumn.

J. Brown, M.P., Belleville.—Considers, as the distance is but short, and no locks are required, that a very slight toll on the proposed Canal would be sufficient to pay the interest on the cost of construction.

Committee of County Council of Northumberland and Durham.—Express same opinion.

In reference generally to Murray Canal.

J. Keeler, M.P., Colborne, Ontario.—Considers the original line from Presqu'Isle Bay to the Dead Creek (which falls into the north-east part of the Bay of Quinte), for which a reservation of 6,000 acres of land was made in 1796, with 64 acres as the site of the Canal, as the only *feasible* route, as well as the one which should be adopted in justice to the settlers who purchased lands upon the understanding that the Canal would be built out of the proceeds of those lands whenever sold.

BAY VERTE CANAL.

1. Of what importance to the trade of the Dominion, and specially to that of the Lower Provinces, would be the construction of the proposed Canal?

J. W. Winn, Montreal.—Is of opinion, looking at the locality and the surrounding trade, that this Canal would be a useful work.

Cyrus Black, Stipendiary Magistrate, Amherst, N.S.—Says that it would very materially reduce the distance between the many important ports of the Gulf of St. Lawrence, and those of the Bay of Fundy and the U.S., and open up an increased trade in flour and other articles from Ontario and Quebec, and in coal, &c., from the Maritime Provinces.

Lewis P. Fairbanks, Dartmouth, N.S.—Who owns the Shubenacadie Canal, extending from Halifax due north to the Basin of Minas, expresses himself in general terms in favor of the construction of the Bay Verte Canal.

I. Pickard, M.P., Fredericton.—Says that this Canal would, no doubt, give the people of the Maritime Provinces a cheap route for the transportation of goods from the Western Country, and at the same time open up a highway for the speedy and economical transit of West Indian and European goods to the Upper Provinces. Vessels from the Upper Provinces laden with flour, pork, and manufactures could return with products of our mines and fisheries. This Canal, in his opinion, should form a part of any scheme of improving the inland navigation of the Dominion.

Board of Trade, Ottawa.—Are decidedly of opinion that this Canal is most important to the trade of Canada, and advocate depth of at least 16 feet of water on the sills of its locks.

Board of Trade, Kingston.—The proposed Canal seems likely to promote a large trade.

Hon. R. B. Dickey, Amherst, N.S.—This Canal would be of vast importance to the Intercolonial as well as foreign trade of the Dominion, and especially to that of Quebec, New Brunswick, and northern and western Nova Scotia.

Montreal Corn Exchange Association.—It appears to be a necessary part of the Canal System of the Dominion, affording a shorter line of water communication between the Bay of Fundy and the Straits of Northumberland, and presenting special advantages for commercial intercourse with Prince Edward Island and Newfoundland.

W. S. Cail, Kouchibougnac, N.B.—Simply refers to immense prospective advantages of the work.

James Hamilton, Bay Verte.—Similar answer.

Hon. S. R. McClelan.—Thinks the best route for the Canal would probably be across the isthmus from Shediac to the Petitcodiac River near Moncton. He corroborates what the foregoing writers say as to the general advantages of such a work.

John Wallace, Hillsborough, N.B.—Speaks of the importance of this work to the trade of the Maritime Provinces.

Board of Trade, Quebec.—Look upon the construction of this Canal as a great necessity, and invaluable to entire trade of the Dominion.

Christopher Milner (Chairman of Committee appointed at a public meeting, held at Sackville, to report on the subject of the Bay Verte.)—Refers to the development of the fisheries and coal mines as among the results of the construction of this Canal, which has been before the public ever since 1825, and shewn to be perfectly feasible by competent engineers and practical men acquainted with the locality. The value of the Nova Scotia fisheries alone, in 1869, was probably $4,000,000, the largest proportion of which was derived from the Gulf; besides this, the year before the Reciprocity Treaty was abrogated, 200,300 tons of American shipping fished in colonial waters, principally in the Gulf. The coal trade of Nova Scotia (Pictou and Sydney), is expanding, and a large bulk of it must pass to the Bay of Fundy and the United States through this Canal. Timber and deals, one of the most extensive branches of industry in the northern parts of New Brunswick and Nova Scotia, shipbuilding, and other productive sources of wealth, the stone quarries of Bathurst and Wallace, and the grindstones of Minudie—all these must be benefitted. Prince Edward Island and the northern portions of New Brunswick and Nova Scotia, possess great agricultural capabilities, which must be stimulated when they have more speedy access to markets. In 1857, there was not sufficient trade for a single small steamer between Pictou and Shediac; now, half-a-dozen large steamers are busily employed in the Gulf—some trading between Quebec and the Maritime Provinces, others between Boston and the Maritime Provinces. This fact shows the expanding nature of the Gulf trade. Hence will be seen the necessity of a common public highway from Montreal down the St. Lawrence to the Bay of Fundy by the Isthmus of Chignecto, enabling the carriage of freight without transhipment, and developing the various sources and national wealth and industry just mentioned. Among other benefits will be the reduction of freights between Montreal and other cities of the St. Lawrence, and the Bay of Fundy and the United States, as far as New York. The voyage from Montreal to St. John, N.B., *via* Bay Verte Canal, would be 450 miles less, and, on an average, would occupy 8 days less than *via* Gut of Canso. The freight now on a barrel of flour from Montreal to St. John, *via* Shediac and the railway, is 50 cents; but this is attended with the loss to which packages are liable in handling. The saving in freight *via* Bay Verte (less tolls) would be 25 per cent. The markets of the Bay of Fundy, and the northern ports of the United States, would be supplied with Canadian flour by this route, for it would have naturally the preference over every other route. The difference of freight from Montreal to St. John by the Bay Verte Canal and the Gut of Canso would be 50 per cent. in favor of the former. The trade affecting the Maritime Provinces through this work, would be the transportation of their agricultural products, their lumber, coal, fish and stone to the markets of the Bay of Fundy and the United States—a trade of lumber and sugar shooks with the Bay of Fundy and thence westerly, would be created; a smaller class of fishermen would pass through the Canal to the fishing grounds than would venture round the Atlantic shores of Nova Scotia. The Straits of Northumberland are always free of ice, and navigable from 10 to 20 days before the Gut of Canso (which is blocked with ice driven from the north) can be passed. The Bay Verte Canal would give access to the fishing grounds a fortnight earlier than is the case at present. In this way, fishermen would be able to make an additional trip every season. Ships in St. John and the northern American ports, which would receive cargoes in the Gulf, would avail themselves of this safer and more expeditious route.

Ships in St. John and other Bay of Fundy ports laden for Europe would have the choice of this route, and thus be enabled with the south-west winds, which prevail for the greater part of the summer season, to run up the Bay through the Canal, and would be often carried past the Banks of Newfoundland before they could otherwise beat their way out of the Bay.

This choice of route is valuable not only to Bay of Fundy shipping but to West India traders and vessels from Western ports. If there were no difference in freights other-

wise, this choice of route would make a considerable deduction from present rates, and enable coarse goods like American hides to be carried more cheaply from New York. In this way a new trade would be created.

Another advantage to Canadian trade would be a direct trade by the Bay of Fundy between Canada and the West Indies. Vessels with West India produce for Canada would bring a return freight of flour, &c., to New Brunswick, and there take their usual cargo to the West Indies. So they would freight the voyage round. The olive stone of the Bay of Fundy, which, from its strength and unrivalled beauty, commands a remunerative price in the markets of the United States, despite a hostile tariff, would, by means of this Canal, be carried into Canadian cities.

The extensive marshes of Chignecto are unequalled as respects their hay crops, and this Canal would enable thousands of tons of pressed hay to be sent to cities on the St. Lawrence.

Allan Gilmour, Ottawa.—Merely expresses the opinion that that a Canal at this place would be of great benefit to the trade of the Dominion generally, and the Lower Provinces in particular.

Adam Brown, Hamilton.—The construction of this Canal would be one of the most useful works that could be undertaken for the general interests of the Dominion; it would reduce the cost of transportation between the productive portions of Canada on the one hand, and the consumptive power of the maritime Provinces on the other.

Board of Trade, Hamilton.—This Canal would be of great importance to the trade of the Dominion especially to that of the Lower Provinces, looking to the improved size of vessels on the lakes as the result of enlarging our Canals, and which would engage in the direct trade from the Upper Lakes to the Lower Provinces.

Alexander Wright, Westmoreland.—Refers to the various branches of industry which the opening up of this Canal would develope:—

Coal, of which there is an inexhaustible supply in the Cumberland Coal Basin, where companies are now engaged in raising the article. The quantity will be supplemented, on the completion of the Intercolonial, by the Spring Hill Coal, which has a seam of 18 feet thickness. These Coal Mines are easy of access for shipment at present, and in order to facilitate the communication with the Canal, small branch railroads can be made at a very trifling outlay, and coal sheds sufficiently extensive to suit the trade, at the mouth of the Canal so that vessels could take in their cargoes cheaply and expeditiously. Albertite Coal, so admirable for gas purposes, will also be exported from Albert County, N. B.

Ground gypsum is found in close proximity to the Albert Mines, and shipped to some extent to Canada *via* Shediac, but the cost of transit bars the extension of this business. Both the coal and gypsum are supplied at commodious wharves and with every facility for quick despatch. The plaster mills are driven by steam power and are the most extensive and efficiently equipped establishments of the kind in the Dominion.

The finest description of free stone, either for building or statuary purposes (already utilized in the New York Central Park), is exported to the American market. It is known as the Dorchester Olive Free Stone. This article is found in different localities, of different shades and textures, from the dark brown to the light gray, and all lying within easy access for shipment by the Canal. A somewhat similar stone has hitherto been brought to Canada from Ohio.

Flagging stone is found in strata of various thickness admirably adapted for the purposes for which it is used. From the knowledge of this business, derived from conversation with Canadians, he is confident that the export of this article alone could easily be worked up to $100,000.

The grindstones of the Soggins, Cumberland, have a South and North American reputation; the quarries are in close proximity to the Canal.

Scythe stones are now extensively manufactured by an American gentleman at the head of Cumberland Bay. Last year over 26,000 were sold in Canada alone. Paint is being extensively manufactured by an English or Canadian Company at Five Islands, Colchester, where extensive beds of valuable Byrata exist. This article is extensively used in the manufacture of white paint.

The Bay of Fundy Shad is a very productive branch of industry, and is even now shipped in considerable quantities to Canada, herring and other fish as well as oil are also largely exported from the Bay, and it will occasionally pay to ship these to St. John, as a return cargo to Canada.

West India produce can be furnished at St. John, on equal, if not better terms, than at any other point in the Maritime Provinces and can be exported to advantage as return cargo to Canada *via* the Bay Verte Canal, and not Canada alone, but the whole range of Gulf seaports will draw their supplies to a great extent from St. John, when vessels can avail themselves of the short, cheap, and safe transit which the Canal offers for passing from the Gulf of St. Lawrence to the Bay of Fundy. St. John has now, and will continue to have, for years to come, control of the shook trade. Maine being forced out of the trade, with the opening of the Canal, an additional supply will be furnished from the Gulf ports.

Sole leather, cotton, warps, tacks, flocking, and other articles of New Brunswick manufacture are even now exported to Canada, and a larger trade in them would grow up, when the short Bay Verte route is opened.

The Gulf fishermen will have additional facilities afforded them for sending their fish to the St. John market. The agricultural products of the Gulf country will also be stimulated.

A trade would also be opened up with Newfoundland. The distance from Port au Basque, Newfounland to St. John *via* the Bras d'Or Lake, St. Peter's Canal, and the Bay Verte, will be 380 miles—an inland, a safe navigation with the exception of a sail of 70 miles across the Gulf. Newfoundland exports are fish, oil, and skins; New Brunswick exports are boards, shingles, bricks, lime, laths, together with nets, chains, ropes, canvas, dry goods, provisions and West India produce; just such goods as St. John can furnish advantageously to the buyer, as well as with profit to the seller. In this way St. John would have additional inducement to embark more largely in the South American and West India trade.

Ship builders will also be afforded facilities for obtaining special pieces of timber, such as oak, stem, and stern posts, keelsons, mast pieces, &c., which can be brought as deck load on flour-laden vessels, when they can come directly to Bay of Fundy ports without breaking bulk. The supply of timber of this kind has almost ceased, so far as New Brunswick is concerned.

John Boyd, St. John.—After referring to the resources of the Maritime Provinces, which would be developed by the Canal, in terms similar to those used by Mr. Wright, concludes by saying:

There is no public work now presented to the Dominion which will be so far-reaching in its beneficial consequences not only to Canada, but to the whole of the Atlantic coast of North America. This Canal means, for Ontario and Quebec, cheaper coal, iron, stone, fish, leather, &c.; for Nova Scotia and New Brunswick, a better market for all these. It means cheaper flour and other products of the Upper, to us of the Lower Provinces—a larger market, or rather, greater facilities for supplying the United States, the West Indies and South America, with what we are now prevented from sending, owing to the distance and cost. It means to us *all* an immensely extended commerce, and to Prince Edward's Island the necessity of a closer Union with these Provinces, which can offer her such advantages for commerce and manufactures. It will be one of the most powerful inducements to persuade

her to join us, whilst it means the welding of us all together more closely in those bonds of commercial Union, which have so far proved so mutually beneficial, making us one people, because it will be *our interest* to be one, by building up our own Country and opening every possible channel of communication that can cheapen our products, we will be,in a position to be indifferent to the hostile legislation of other people. On the contrary, such legislation will the more bind us to one another, as by a refusal of reciprocity in the past, we have been driven from old markets to new, so will it be in the future, and the intended curse will prove a substantial blessing.

Chamber of Commerce, St. John, N. B.—It would be of immense benefit to the trade of the Dominion, for the following reasons :—

1st. The Maritime Provinces import, say 700,000 barrels of flour annually, besides a great many other articles of a bulky character ?

2nd. The Maritime Provinces possess inexhaustible supplies of productions required by Ottawa and Quebec.

3rd. The chief articles of import from Ontario to the Lower Provinces and *vice versa* being bulky, the element of freight forms a large item in their value, hence any greater facility for transit tending to cheapen the cost, must be productive of a greatly increased demand.

4th. The Bay Verte Canal would not only afford the desired facility for transit, rendering it unnecessary to break bulk between the points of shipment and destination, but would remove a great barrier to cheap freights, by enabling owners of vessels to secure return cargoes to Ontario and Quebec and thus build up a mutually desirable reciprocal trade which may be increased to almost any reasonable extent.

The Board then goes on to enumerate commodities which will form the trade between the Upper and Lower Provinces, but these are already mentioned in the letters of Messrs. Boyd and Wright, to which the Board directs the especial attention of the Commission. In conclusion it adds : This Chamber of Commerce feels that it cannot too strongly urge upon the Commission the paramount importance of the work herein advocated, not only as a means of affording increased facilities for trade generally, but also as calculated materially to cultivate and strengthen that spirit of union, which is duly becoming more necessary, in order to make us practically one people.

Henry Livingstone, Richibucto.—Believes it would be a link between the St. Lawrence Canal and the Maritime Provinces, providing it is made of the same size as the former. It will at once raise the value of saw-mill property in the Northern Counties of New Brunswick, particularly in Kent County.

He enumerates other advantages in terms similar to those who precede.

Hon. John Young, President, Dominion Board of Trade.—If this work is possible of construction it will have results of a most important character in a national aspect. The city of St. John, as well as all other places in the Bay of Fundy, would be brought 430 miles nearer Montreal, Quebec or Toronto, for the water-borne vessels than at present, and the propeller of 900 tons sailing from Lakes Superior, Michigan or Ontario could sail direct to Halifax or St. John with Western States' or Canadian products.

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2. What would be the trade which would be done through this Canal, and how would it affect the Maritime Provinces ?

Cyrus Black, Amherst, N. B.—If there are tolls, there will be undoubtedly a large trade through the Canal in coal, fish, lumber, stone and farm produce, as well as United

States' manufactures. Cumberland posseses coal, grindstones, scythe stones, &c. The Island of Cape Breton would also be benefitted, as her coal would be sent to St. John, Portland and elsewhere by this Canal.

Hon. R. B. Dickey, Amherst, N. S.—The trade would be transport from Ontario and Quebec, of flour and manufactures to St. John, Western Nova Scotia, Portland and Boston, and from the Upper Provinces and Northern New Brunswick of timber, lumber, free stone and provisions to American Ports and the West Indies:—The Prince Edward Island trade hereafter referred to—the passage of American and Canadian fishing vessels to and from the Northern fishing grounds and the return voyages with West India produce, St. John and Nova Scotia manufactures, Bay of Fundy shad fish and Cumberland coal. Notably the latter article, declared by Sir William Logan to be the finest coal for all purposes yet discovered on the continent, would furnish return cargoes for all vessels from the St. Lawrence. These coal measures of unusual length and thickness at Spring Hill, will be intersected by the Intercolonial Railway at a distance of about 25 miles from the Bay of Fundy terminus of the proposed Canal. The cost of transportatation to Montreal, in view of the distance and return freight, would inevitably be less than that of Sydney coal, which alone could be brought into competition with the Spring Hill coal for domestic use. Hundreds of American vessels would pass and repass through this Canal, and they could afford to pay toll, because it would enable them to make an additional voyage each season. It should be the policy of the Dominion to construct this national work—thereby completing the outlet of the great valley of the St. Lawrence through our own territory and down to the American coast.

W. Cail Kouchibougnac, N. B.—Refers to Canal in terms similar to foregoing.

James Hamilton, Bay Verte.—Chiefly lumber, fish, iron, coal, salt, and farm produce, amounting to about $5,500,000 annually.

Hon. A. R. McClellan, Riverside, N.B.—Gives answer similar to previous ones, and expresses the opinion that the Canal would conduce to the development of a larger intercolonial trade.

Board of Trade, Quebec.—Similar answer.

C. Milner, Sackville, N. B.—See question 1.

John H. Harvey, Halifax.—If it can be constructed for moderate cost, and the money can be spared from other necessary improvements, it will probably promote the interests of the section through which it may pass.

Board of Trade, Hamilton.—Refer in general terms to commercial advantages derived from the Canal.

A. Wright, Westmoreland.—Goes at length into the consideration of the commercial advantages derived from the construction of this Canal. See question 1.

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3. How would the construction of this Canal affect the trade of Prince Edward's Island?

Cyrus Black, Amherst, N. S.—A very considerable quantity of farm produce is now annually shipped from Prince Edward's Island to St. John, N. B., and no doubt this trade would increase when the Canal would shorten the distance.

Hon. R. B. Dickey, Nova Scotia.—It could not fail to benefit the trade of the Island, and no doubt its construction would form a large item in balancing the advantages of Confederation in the minds of the people of this productive spot. The natural markets of its surplus agricultural and fishing products are St. John and the New England ports, to which this short cut would give more speedy access, with a *coast* instead of an *ocean* navigation.

James Hamilton, Bay Verte.—Its trade would be vastly increased by the greater facilities afforded to merchants, manufacturers and farmers, by the new and shorter route to large cities and depots of trade.

Hon. A. R. McClellan, N. B.—Similar answer.

Board of Trade, Quebec.—A large trade is now done between the Island and Boston, New York and the West Indies in farm produce, the transport of which would be greatly facilitated by construction of this Canal.

Adam Brown, Hamilton.—It would certainly benefit the trade of the Island, and tend to bring her into the Confederation.

Alex. Wright, Westmoreland.—The construction of this Canal must materially increase the traffic. This surmise is to a certain extent confirmed by the extensive trade now carried on between the Island and St. John *via* the European and N. A. Railway, which will no doubt be largely increased by opening up the proposed Canal, which will afford coasting vessels an easy and safe means of reaching St. John, or extending their voyage to the United States.

James Minerhead, Summerside, P. E. I.—Corroborates what others say respecting the advantages of the Canal.

Henry Livingstone, Richibucto.—It would certainly give greater facilities to Prince Edward's Island merchants to do business with St. John, and also with the Eastern States.

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4. What would be the saving of distance, and the probable saving on freight respectively, between Prince Edward's Island and the Gulf Ports, and the Port of St. John, N. B., Portland and Boston, and the West Indies?

Cyrus Black, Amherst, N. S.—Saving of distance to St. John, N. B., about 500 miles; saving of distance to Portland about 400 miles; saving of distance to Boston about 300 miles. Freight would be regulated in a large measure by amount of toll. This Canal would enable vessels to avoid the intricate navigation of the Gulf of Canso, as well as the rocky dangerous coast of Nova Scotia on the north, and the sandbanks of Sable Island on the south. Insurance would therefore be lessened.

Hon. R. B. Dickey, Amherst, N. S.—Replies to this question in terms identical with foregoing, and adds some facts which he considers conclusive with respect to freight. The freight of a ton of coal from Pictou or Cape Breton, varies from $2.50 to $2.75, gold, to Boston, or $3 to $3.25 to New York; while from the head of Fundy Bay the figures are respectively, $1.50 to $2 to Boston, and $2 to $2.50 to New York. Gypsum is carried in large quantities from Windsor (less accessible than the head of Cumberland Bay), to New York for $2.50, American currency, per ton, or say $2.25 gold. Taking into account the distance from Bay Verte to Pictou, he estimates the difference of freight nearly $1 per ton.

N. S. Cail, Kouchibouguac, N. B.—Similar answer.

James Hamilton, Bay Verte.—Nearly 400 miles; saving of freight about $450,000 annually.

Hon. A. R. McClellan, Riverside, N. B.—Freights would not be more than two-thirds of what is now charged, while the insurance would be greatly reduced.

John Wallace, Hillsborough, N. S.—About 600 miles between Prince Edward's Island and the Gulf Ports, and St. John, Portland and New York.

Board of Trade, Quebec.—At least 400 miles, and consequently a great reduction in time and freight must result.

Adam Brown, Hamilton.—It would reduce the cost of transportation, each way, to a material extent.

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5. Would a large increase in the Pictou coal trade with New Brunswick; Nova Scotia, and the Eastern States, result from the construction of this Canal?

Cyrus Black, Amherst, N. S.—Believes there will be a large increase—in fact, has been so assured by a Pictou Coal Mine proprietor.

Hon. R. B. Dickey, Amherst, N. S.—Similar answer, see question, p. 140.

James Hamilton, Bay Verte.—Ditto,

John Wallace, Hillsborough, N. B.—Ditto.

Board of Trade, Quebec.—Believe it would tend to increase coal trade between Pictou and New Brunswick, and the western coast of Nova Scotia, but doubt if it would materially affect the trade with the United States.

Charles Milner, Sackville, N. B.—See page 135.

A. Wright, Westmoreland.—Not only Pictou but Sydney coal (by means of the St. Peter's Canal, Cape Breton), would find easier access to the Bay of Fundy. Both these sources of supply, however, must in a great measure be superseded by the supply of the Cumberland Basin.

J. Boyd, St. John.—Referring to the impulse that this Canal must give to the coal trade, points out the value of Nova Scotia coal for steam purposes. The steamer *Linda* made 67 trips from St. John to Boston *via* Yarmouth and back. Average consumption of a trip was 40 tons of anthricite, at $5 per ton (the lowest ever bought at St. John). Made 18 trips—average consumption a trip 43 tons Nova Scotia coal at $3.60. Saving, therefore, in *one* year, for this small steamer, by using the Nova Scotia coal, $1,500.

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6. What would be the saving on freights from the ports of Toronto, Montreal and Quebec, *via* the Bay Verte Canal route to St. John, N. B., and other ports in Nova Scotia and New Brunswick, or the Bay of Fundy?

Cyrus Black, Amherst, N. S.—Does not mention any specific amount, but refers to the fact of the shorter and safer route the Canal will afford, as shewing there must be a considerable saving in freight. It should also, he adds, be taken into the account that flour laden vessels from Ontario, &c., to St. John, Amherst, Annapolis, and other maritime ports, will find a back freight.

Hon. R. B. Dickey, Amherst.—A considerable saving would obviously result, both in freight and insurance from the saving of 500 miles of dangerous navigation, and there would be consequently a vastly increased trade between these distant portions of the Dominion—objects worthy of special attention in the infancy of federation.

James Hamilton, Bay Verte.—The saving on freights from Montreal, Toronto, &c., *via* this Canal would be about $150,000 on the aggregate trade at the present time, but this trade must largely increase year by year.

John Wallace, Hillsborough.—About ten cents a package.

Board of Trade, Quebec.—From 20 to 25 per cent.

C. Milner, Chairman of Sackville (N. B.) Committee.—50 per cent.

A. Wright, Westmoreland.—A saving of at least 25 cents per barrel, between St John and other Bay of Fundy ports and Toronto.

Chamber of Commerce, St. John, N.B.—It is estimated from information gathered and from ordinary experience, that on all kinds of heavy freight there would be a saving over present rates of from 30 to 50 per cent.

Henry Livingston, Richibucto.—It would save from five to six days' time between the mouth of the St. Lawrence and the point where two vessels would meet.

In reference generally to Bay Verte Canal.

Hon. R. B. Dickey, Amherst, N.B.—The navigation of the St. Lawrence has been facilitated by expensive Canals; but there is still a link wanting to the chain of improvement to connect the trade borne upon its waters with the important inlet between Nova Scotia and New Brunswick—in other words an outlet for the second if not the first river on this continent, by its natural channel through Canadian territory to the American coast. To carry out this improvement, in advance of all others, by a ship Canal 16 miles long would be the true national policy of the Dominion. Let us first combine to form Confederated Provinces by intercolonial improvements that will benefit them all. Instead of embarking in new projects of colossal magnitude on the one hand, or on the other of costly enlargement *not imperatively necessary* that prove to be beyond our means, let us for the present complete the system of water communication of which the St. Lawrence is the main artery; by all means if practicable, deepen the channel to Montreal, and *then as necessities demand and means permit* take up these questions of enlargements—postponing new enterprises such as the Ottawa, Georgian Bay Canals, &c., until railway facilities, at infinitely less cost, have proved inadequate to meet the increasing requirements of trade.

Hon. A. R. McClellan, Riverside, N.B.—Thinks the Canal should be called "The Bay of Fundy Canal," as the more comprehensive appropriate title; that a passage across the Isthmus from Shediac to the Petitcodiac River near Moncton, (about 14 miles) either by a lock Canal or an open tidal way, would probably combine many advantages over a similar work from Bay Verte; it would be more accessible at either end

for nearly all vessels, save a distance of 60 miles, the greater portion of which is along a rather dangerous coast, lying between Bay Verte and Shediac.

Mr. Milner, Chairman of Sackville Committee (appointed to consider question of the Canal.) —States that in the event of it being found necessary or advisable to use the tidal waters of the Bay of Fundy, many persons have acquired a knowledge of preventing or obtaining a deposit of mud held in suspension in such waters;—that no practical difficulty, however, exists to prevent the use of such waters in the Canal, especially as it must be taken from the Bay, and at times of tide when there is a maximum of mud; that the water of the Bay is not more turbid or muddy than that of the Mersey where the Liverpool and Birkenhead Docks are worked without inconvenience.

ST. PETER'S CANAL.

Isaac Le Vesconte, Richmond.—Calls attention to the importance of the St. Peter's Canal, Cape Breton; it has been made so narrow that it will not permit the passage of an ordinary paddle wheel steamer through its locks, nor can many of the the brigantines avail themselves of this route. Closes by referring to marble and resources within a short distance of this work, and recommending its improvement.

Hon. E. P. Flynn, ME.C.—Concurs in foregoing remarks.

W. Ross, M.P., Victoria, N.S.—During the past summer, more than 500 vessels passed through this Canal, and many more would have done so, had it been sufficiently deep and wide. It is too small for the general run of vessels that would pass by this route, and requires enlargement while the approaches might be easily improved.

A. Wright, Westmoreland.—Refers to this Canal as affording a safe route for the transit of Sidney coal to the Bay of Fundy *via* the Bay Verte.

Hon. J. Bourinot, Senator.—The manner in which this important work has been constructed is exceedingly unsatisfactory, since it is too narrow for the class of vessels engaged in the coal trade and other business of that part of the Dominion. The most valuable coal mines are on the route which this Canal is entitled to improve, but at present the object of its promoters is not achieved for the reasons just stated. The resources of the Bras d'Or are very valuable and must be developed according as the Canal facilitates navigation between the waters of the lake and the sea.

In this connection he calls attention to the advisability of constructing a short Canal between the Portage East Bay and Spanish River, which leads to the famous Coal Mines of Sidney. This Canal would not be more than three miles long.

APPENDIX B.

DEPTH of Water in the Harbors on the Inland Lakes, furnished to the Secretary of the Canal Commission by the Collectors of Customs at the several ports.

—	Highest.	Lowest.	Ordinary.	Capability.	Authority and Remarks.
Harbors of Ontario.	Feet.	Feet.	Feet.	Feet.	
Kingston	18·00	12·00	12·00	14·00	William B. Simpson and Harbor Master.
Cobourg	11·00	9·00	10·00	12·00	George Perry.
Port Hope	18·00	11·00	12·00	14·00	M. Whitehead and Harbor Master.
Newcastle	9·00	7·50	8·00	14 00	F. Farncomb; sandy bottom, no rock.
Darlington	14·00	9·00	12·00	14·00	A. Dixon; Company intends to dredge it out.
Whitby	10·50	8·00	9·00	12·00	W. Warren; Company intend dredging to 12 feet.
Toronto—Main West Entrance	15·44	12·60	13·00	14·00	James E. Smith and Harbor Master.
do Eastern Entrance	10·00	.....	.....	.....	The eastern channel uncertain; should be closed.
Oakville	10·50	7·50	9·00	11·00	R. H. Chisholm.
Hamilton—B. B. Canal	17·00	15·00	14·00	14·00	William H. Kittson.
Dalhousie	16 00	10·50	13·00	.....	Official report, P.W., 1867. Depth on sill of lock.
Niagara	22·00	20·00	20·00	20·00	J. W. Taylor and Captain Milloy.
Oswego	23·00	18·00	.....	.....	C. C. P. Clarke and Lieut. B. D. Green, U.S.N.
Harbors of Erie.					
Port Colborne	18·75	10·00	13·00	14·00	S. D. Woodruff, Supt. W.C., and official returns. Lock sill.
Port Maitland	16·25	9·00	11·00	14·00	do do
Port Burwell	12·00	9·00	9·00	12·00	E. A. Dunham; harbor not formed; variable depth.
Port Stanley	13·00	11·00	12·00	14·00	W. Hemphill and Harbor Master.
Port Dover	10·00	8·00	9·00	10·00	T. B. Barrett.
Buffalo	22·00	8·00	14·00	14·00	W. Daniels.
Erie	14 00	12·75	14·00	14·00	R. F. Gaggin and Captain.
Sandusky	13 00	10·00	13·00	.....	John Young.
Toledo	11·50	8·00	10·50	.....	H. Osborn, Deputy Collector.
Detroit	21·00	18·00	18·00	18·00	Major C. B. Comstock, Engineer, U.S.A.
St. Clair Flats, Channel	14½	13·00	14·00	14·00	John Brown, Contractor, Thorold, and C. B. Comstock, Major Eng., U.S.A.
Harbors of Huron and Michigan.					
Goderich	12·00	11·00	11·00	.....	D. Doty.
Southampton	10·50	9·00	10·00	.....	Alex. Sinclair (Reeve), for Mr. Keith.
Grand Haven	22·00	17·00	19·00	19·00	J. A. Stephenson, Deputy Collector.
Chicago	16·00	13·50	14·00	14·00	J. E. McLean, and J. W. Steele, Harbor Master.
Milwaukee	15·00	13.50	14·00	14·00	S. T. Hooker.
Green Bay	13·00	11·00	11·00	13·00	T. P. Dousman; improvements aim at 13 feet.

NOTE.—The 4th column is added by myself, either from personal knowledge, or from representations of others who can be relied upon.

DEPTH of Water in the Harbors on the Inland Lakes, &c.—*Continued.*

—	Highest.	Lowest.	Ordinary.	Capability.	Authority and Remarks.
Harbors of Huron and Michigan.—Continued.	Feet.	Feet.	Feet.	Feet.	
River Ste. Marie.....					
Lake George, St. Mary's River..	14·00	14·00	14·00	14·00	Capt. Fraser, H.M. Gunboat *Prince Alfred*, American Channel.
Sault Ste. Marie Canal, American side	12·50	12·00	12·00	14·00	To be deepened to 14 feet; P. W. Report, 1867.
Lake Superior.....					
Fort William (Thunder Bay, L.S.)					
Duluth (Fond du Lac, L. S.)					

APPENDIX C.

INLAND NAVIGATION.

Ten Routes from Lake Ports to Atlantic Seaports; also Relative Proportions of Locks of Canals.

From Chicago to Atlantic Seaports.

Routes.	Feet Lockage.	No. of Locks.	Miles Canal.	Miles River.	Miles Lake.	Total Distance.
1. From Chicago to Montreal, by the Welland and St. Lawrence Canals	553	54	71	185	1,005	1,261
2. From Chicago to Montreal, by the proposed Ottawa Canal	710	69	29	402	560	991
3. Chicago to New York, by Buffalo and Erie Canal	655	72	352	202	865	1,419
4. Chicago to New York, *via* Welland Canal and Oswego	955	94	224	196	983	1,403
5. Chicago to New York, *via* St. Lawrence and proposed Caughnawaga Canals	717	72	158	363	1,116	1,637
6. Chicago to New York, *via* proposed Ottawa and Caughnawaga Canals	872	87	125	572	671	1,368
7. From Duluth to Montreal, *via* Welland and St. Lawrence Canals	572	56	72	239	1,095	1,406
8. From Duluth to Montreal, *via* proposed Ottawa Canal	729	71	30	456	610	1,096
9. From Duluth to New York *via* St. Lawrence and proposed Caughnawaga Canals	736	74	159	417	1,206	1,782
10. From Duluth to New York, *via* proposed Ottawa and Canghnawaga Canals	891	89	126	626	721	1,473

1st Route.—From Chicago to Montreal, by the Welland and St. Lawrence Canals.

From.	To.	Section of Navigation.	Feet Lockage.	No. of Locks.	Tonnage Capacity.	Miles Canal.	Miles River.	Miles Lake.
Chicago	Sarnia or Port Huron	Lakes Michigan and Huron	.....	.....	1,500	.....	.....	600
Sarnia	Detroit	River St. Clair and Lake St. Clair	.....	.....	1,500	.....	33	25
Detroit	Port Colborne	Detroit River and Lake Erie	.....	.....	1,500	.....	18	220
Port Colborne	Port Dalhousie	*Welland Canal	346	27	450	27	.....	160
Port Dalhousie	Kingston	Lake Ontario	.....	.....	1,500	.....	.....	
Kingston	Montreal	†River St. Lawrence	207	27	700	44	134	
Totals			553	54	.....	71	185	1,005

Miles Lake Navigation	1,005
,, River Navigation	85
,, Canal Navigation	71
Total distance, Chicago to Montreal	1,261

* The difference of level between Lakes Erie and Ontario is 330 feet; but the Welland Canal is fed from Grand River, 8 feet above the Lake, making the total lockage, up and down, 346 feet.

† The rise from tide water to Lake Ontario is 234 feet; the Locks in the St. Lawrence overcome 207 feet; leaving to be overcome in the River, 27 feet. It is estimated that 11 feet rise is found between Three Rivers and Montreal, and 16 feet between the Canals from Montreal to Kingston.

2nd Route.—From Chicago to Montreal by proposed Ottawa Canal.

From.	To.	Sections of Navigation.	Feet Lockage.	No. of Locks.	Tonnage Capacity.	Miles Canal.	Miles River.	Miles Lake.
Chicago	Mouth of French River	Michigan and Huron	.....	.....	1,500	.....	.....	560
French River	Montreal	The Ottawa Canal	710	69	700	29	402	

Miles Lake Navigation	560
Miles River Navigation	402
Miles Canal Navigation	29
Total distance, Chicago to Montreal	991

3rd Route.—From Chicago to New York, by Buffalo and Erie Canal.

From.	To.	Section of Navigation.	Feet Lockage.	No. of Locks.	Tonnage Capacity.	Miles Canal.	Miles River.	Miles Lake.
Chicago	Sarnia or Port Huron	Michigan and Huron	.....	.....	1,500	.....	.....	600
Sarnia	Detroit	River St. Clair and Lake St. Clair	.....	.....	1,500	.....	33	25
Detroit	Buffalo	Detroit River and Lake Erie	.....	.....	1,5[illegible]	.....	18	240
Buffalo	Albany	Erie Canal (enlarged)	655	72	220	352		
Albany	New York	Hudson River	.....	.....	1,500	.....	151	
Totals			655	72	.....	352	202	865

Miles Lake Navigation	865
,, River Navigation	202
,, Canal Navigation	352
Total distance, Chicago to New York, *via* Erie Canal	1,419

4th Route.—From Chicago to New York, *via* Welland Canal and Oswego.

From.	To.	Section of Navigation.	Feet Lockage.	No. of Locks.	Tonnage Capacity.	Miles Canal.	Miles River.	Miles Lake.
Chicago	Sarnia	Michigan and Huron	.....	.....	1,500	.....	.....	600
Sarnia	Detroit	River and Lake St. Clair	.....	.....	1,500	.....	.....	25
Detroit	Colborne	Detroit River and Lake Erie	.....	.....	1,500	.....	18	220
Colborne	Dalhousie	Welland Canal	346	27	450	27		
Dalhousie	Oswego	Lake Ontario	.....	.....	1,500	.....	.....	138
Oswego	West Troy	Oswego and Erie Canals (enlarged)	609	67	220	197		
West Troy	New York	Hudson River	.....	.....	1,500	.....	145	
Totals			955	94	.....	224	196	983

Miles Lake Navigation	983
,, River Navigation	196
,, Canal Navigation	124
Total distance, Chicago to New York, *via* Oswego	1,403

5th Route.—From Chicago to New York, *via* St. Lawrence and proposed Caughnawaga Canals.

From.	To.	Section of Navigation.	Feet Lockage.	No. of Locks.	Tonnage Capacity.	Miles Canal.	Miles River.	Miles Lake.
Chicago	Sarnia	Michigan and Huron			1,500			600
Sarnia	Port Colborne	St. Clair and Erie, St. Clair & Detroit			1,500		51	251
Colborne	Dalhousie	Welland Canal	346	27	450	27		
Dalhousie	Kingston	Lake Ontario			1,500			160
Kingston	Caughnawaga	River St. Lawrence	162	22	700	35½	134	
Caughnawaga	St. John's	Caughnawaga Canal	29	3	1,500	34½		
St. John's	Whitehall	Lake Champlain					23	111
Whitehall	Waterford	Champlain Canal	180	20	100	61		
Waterford	New York	Hudson River					155	
Totals			717	72		158	363	1,122

Miles Lake Navigation	1,122
,, River Navigation	363
,, Canal Navigation	158
Total Distance, Chicago to New York	1,643

6th Route.—From Chicago to New York, *via* proposed Ottawa and Caughnawaga Canals.

From.	To.	Section of Navigation.	Feet Lockage.	No. of Locks.	Tonnage Capacity.	Miles Canal.	Miles River.	Miles Lake.
Chicago	Mouth of French River	Michigan and Huron			1,500			560
Mouth of French River	Caughnawaga	Ottawa Canal and River	663	64	1,500	29½	394	
Caughnawaga	St. John's	Caughnawaga Canal	29	3	1,500	34½		
St. John's	Whitehall	Lake Champlain			1,500		23	111
Whitehall	Waterford	Champlain Canal	180	20	100	61		
Waterford	New York	Hudson River			1,500		155	
Totals			872	87		125	572	671

Miles Lake Navigation	671
,, River Navigation	572
,, Canal Navigation	125
Total distance, Chicago to New York, by Ottawa Canal	1,368

7th Route.—From Duluth to Montreal, *via* Welland and St. Lawrence Canals.

From.	To.	Section of Navigation.	Feet Lockage.	No. of Locks.	Tonnage Capacity.	Miles Canal.	Miles River.	Miles Lake.
Duluth	River St. Mary	Lake Superior	.....	.....	1,500	.....	.....	420
Point Aux Pins	Fort St. Joseph's Island	River St. Mary	19	2	1,500	1	54	
River St. Mary	Sarnia	Lake Huron	.....	.....	1,500	.....	.....	270
Sarnia	Port Colborne	Erie, St. Clair, and River St. Clair and Detroit	.....	.....	1,500	.....	51	245
Port Colborne	Kingston	Welland Canal (500) and Ontario (1500)	346	27	500	27	.....	160
Kingston	Montreal	River St. Lawrence	207	27	700	44	134	.....
Totals			572	56	.....	72	239	1,095

Miles Lake Navigation	1095
,, River Navigation	239
,, Canal Navigation	72
Total distance, Duluth to Montreal, St. Lawrence Route	1,406

8th Route.—From Duluth to Montreal, *via* proposed Ottawa Canal.

From.	To.	Section of Navigation.	Feet Lockage.	No. of Locks.	Tonnage Capacity.	Miles Canal.	Miles River.	Miles Lake.
Duluth	River St. Mary	Lake Superior	.....	.....	1,500	.....	.....	420
Point aux Pins	Fort St. Joseph's Island	River St. Mary	19	2	1,500	1	54	
Fort St. Joseph's Island	Mouth of French River	Lake Huron	.....	.....	1,500	.....	.....	190
Mouth of French River	Montreal	wa River and Canal	710	69	1,500	29	402	
Totals			729	71	.....	30	456	610

Miles Lake Navigation		610
,, River Navigation		456
,, Canal Navigation		30
Total distance, Duluth to Montreal, *via* Ottawa Canal		1,096
Fort William to River St. Mary	290	
Duluth to River St. Mary	420	
Difference		130
Total distance, Fort William to Montreal, Ottawa Route		966

9th Route.—From Duluth to New York, by St. Lawrence and proposed Caughnawaga Canals.

From.	To.	Section of Navigation.	Feet Lockage.	No. of Locks.	Tonnage Capacity.	Miles Canal.	Miles River.	Miles Lake.
Duluth	River St. Mary	Lake Superior			1,500			420
Point aux Pins	Fort St. Joseph's Island	River St. Mary	19	2	1,500	1	54	
Fort St. Joseph's Island	Sarnia	Lake Huron			1,500			270
Sarnia	Port Colborne	L. St. Clair & Erie, R. St. Clair & Detroit			1,500		51	245
Port Colborne	Port Dalhousie	Welland Canal	346	27	450	27		
Dalhousie	Kingston	Lake Ontario						160
Kingston	Caughnawaga	River St. Lawrence	162	22	700	35½	134	
Caughnawaga	St. John's	Caughnawaga Canal	29	3	1,500	34½		
St. John's	Province Line	Richelieu River			1,500		23	
Province Line	Whitehall	Lake Champlain			1,500			111
Whitehall	Waterford	Champlain Canal	180	20	100	61		
Waterford	New York	Hudson River			1,500		155	
Totals			736	74		159	417	1,206

Fort William to River St. Mary	290 miles.	Miles Lake Navigation	1,206
Duluth to River St. Mary	420 ,,	,, River Navigation	417
		,, Canal Navigation	159
Difference	130 ,,	Total distance, Duluth to New York, St. Lawrence & Champlain Route.	1,782

10th Route.—From Duluth to New York, *via* proposed Ottawa and Caughnawaga Canals.

From.	To.	Section of Navigation.	Feet Lockage.	No. of Locks.	Tonnage Capacity.	Miles Canal.	Miles River.	Miles Lake.
Duluth	River St. Mary	Lake Superior			1,500			420
Point aux Pins	Fort St. Joseph's Island	River St. Mary	19	2	1,500	1	54	
River St. Mary	French River	Lake Huron			1,500			190
French River	Caughnawaga	Ottawa River	663	34	1,500	29¾	394	
Caughnawaga	St. John's	Caughnawaga Canal	29	3	1,500	34½		
St. John's	Rouse's Point	River Richelieu			1,500		23	
Rouse's Point	Whitehall	Lake Champlain			1,500			111
Whitehall	Waterford	Champlain Canal	180	20	100	61		
Waterford	New York	Hudson River			1,500		155	
Totals			891	89		126	626	721

Miles Lake Navigation	721
,, River Navigation	626
,, Canal Navigation	126
Total distance, Duluth to New York, Ottawa and Champlain Route..	1,473

Relative Proportions of the Locks at present in use on the Canals of Canada.

First Opened.	Capacity.	Dimensions in feet.	Name of Canal.
1834	100 TONS	107 × 19 × 6	Grenville Canal, small locks.
1843	200 TONS	118 × 23 × 7	Chambly Canal.
1834	300 TONS	126½ × 32 × 6	Carillon Canal.
1834	300 TONS	131 × 33 × 6	Châte à Blondeau.
1832	250 TONS	134 × 33 × 5	Rideau Canal.
1846	600 TONS	150 × 26½ × 10¼	Welland Canal, small locks.
1869	800 TONS	122 × 26 × 13	St. Peter's Canal, Cape Breton.
1847 1846	ST LAWRENCE 700 TONS WELLAND 900 TONS	200 × 45 × 7 208 × 45 × 9 200 × 45 × 12 200 × 45 × 16	Saint Our's Lock. Saint Lawrence Canals. Welland Canal, Dalhousie. Lachine Basin, Montreal.
1843	750 TONS.	200 × 55 × 9	Cornwall Canal.
	1300 TONS 270 X45X9		Proportions recommended for uniform scale by Canal Commissioners, February 24th, 1871.

SAMUEL KEEFER, C. E.,
Secretary, Canal Commission.

OTTAWA, 24th Feb., 1871.

Relative Proportions of Locks on American Canals.

First Opened.	Capacity.	Dimensions in feet.	Name of Canal.
1822	70 TONS	97 × 14 × 4	Champlain Canal.
1862	210 TONS	110 × 18 × 7	Erie Canal, enlarged.
1855	2000 TONS 350×70×12		Sault Ste. Marie.

SAMUEL KEEFER, C. E.,
Secretary, Canal Commission.

OTTAWA, 24th Feb., 1871.

APPENDIX D.

SYNOPSIS OF INFORMATION

Laid before the Canal Commission at their second meeting in Ottawa, 18th January, 1871,

OF A GENERAL CHARACTER.

1. Register of the circulars sent, the number, to whom sent, and the answers received.
2. The answers to the questions contained in the circular adopted at the first meeting on the 25th Nov., 1870, from the following Boards of Trade:—Quebec, Ottawa, Kingston, Belleville, Toronto, Hamilton, London, Stratford, Guelph, Windsor, St. John, N. B., Halifax, N. S., Chicago, Milwaukee, Detroit, Toledo, Oswego.
   From the corporate town of *Sandwich.*
   From Corn Associations at Toronto and Montreal.
   From Public Meetings at St. Catherine's, Ont., and Sackville, N. B.
   From the Trinity House, Quebec, and from sixty-four (64) individuals.
3. Seven M.S.S. books containing tabulated abstracts of these answers, arranged under their proper heads for convenience of reference.
4. Replies of Collectors of Customs to the circular letter of the Secretary, giving the actual draught of water in the principal Harbors on the Inland Lakes.
5. Tabulated arrangement of this information.
6. Tables of distances, lockage, &c., on ten different routes between the Inland Lakes and the Atlantic sea-ports, revised by the Secretary from the latest and best authorities.
7. Report of the Buffalo Board of Trade for 1869.
8. Report of the Chicago Board of Trade for 1869.
9. Report of Montreal Board of Trade for 1869.
10. Report of the State Engineer and Surveyor on Erie Canal 1868-69.
11. Trade and Navigation Returns for 1867, 1868, and 1869.
12. M. J. McAlpine's Report on cost of transport on Canals, Rivers and Lakes.
13. T. C. Keefer's Map of the Dominion of Canada.
14. The Admiralty charts of its navigable waters.
15. Mercantile Map of the World, 1868.
16. Dawson's new map of Canada.
17. Sir W. E. Logan's Geological Map of Canada.
18. Mackinlay's map of Nova Scotia.
19. Profile of various water communications between Lake Huron and the sea.

I. WELLAND CANAL.

1. Annual reports of the Public Works' Department from 1841 to 1869.
2. Extracts from these reports, giving the history of the inception and progress of the measures adopted for making Lake Erie the summit of supply.
3. Traffic returns on the Welland Canal for the fiscal year ending 30th June 1870—called for by the Commissioners at their last meeting
4. Lieut.-Col. Philpott's report, plans, and estimate for the enlargement of the Welland Canal.
5. Walter Shanly's report, plans, and estimate of the lateral cut to Niagara, 1854.

6. Prospectus of the Erie and Ontario Ship Canal Company for the construction of the same.
7. Departmental plan of the Welland Canal, book and roll.
8. Plans of Harbors Dalhousie and Maitland, 1845.
9. Plan of the Aqueduct across the Welland, 1845. (See my letter to Secretary P. W. 29th Dec., 1870).

II. St. Lawrence Canals.

1. Book of plans of the locks on the Williamsburgh Canals.
2. Mr. Page's report and estimate for deepening these canals to 10½ feet water. Report 1859; estimate, $1,028,000.

III. Lachine Canal.

1. Departmental plan of Montreal entrance to the Lachine Canal.
2. Projected improvements by the Hon. John Young, 1862.
3. Report and plan by Deputy Commissioner S. Keefer for increasing the accommodation for vessels in the Upper Basin.
4. General plan of Lachine Canal by Kingsford.

IV. St. Lawrence River and Rapids.

1. General plan of the River St. Lawrence from Montreal to Prescott—shewing the rapids.
2. Maillefert and Raasloff's plan for improving the rapids for downward transit.
3. Maillefert and Raasloff's report and estimate in printed document, 1855.
4. Admiralty chart of the river from Montreal to Prescott.

V. St. Lawrence River—Quebec to Montreal.

1. Latest published Admiralty charts shewing new channel through Lake St. Peter (1860).
2. G. F. Baillarge's soundings in Lake St. Peter, 1869 at Lavaltres, Point aux Trembles, Cape Charles and Cape St. Michael.
3. Mr. Page's report on the present state of the Channel and estimated cost for deepening it (1868).

To 22 feet	$ 800,000
To 24 feet	2,500,000

VI. Rideau Canal.

1. Mr. Rowan's report on supply of water for this canal, with map.
2. Report of Select Committee of H. A., 1865 on supply of water.

VII. Sault Ste. Marie Canal.

1. Plans, report and estimate for the construction of a canal on the Canada side, S. Keefer's report 19th August, 1852, contained in that of Dept. P. W. for 1851.
2. Chart of the river St. Mary—F. P. Rubridge.

VIII. Caughnawaga Canal.

1. J. B. Jarvis' report and estimate of various routes published 1855.
2. I. B. Mills' plan of this canal—his report in Annual Return for 1856; his estimate in Annual Return for 1855, £453,602.
3. W. H. Swift's report on the foregoing, 6th June, 1866. In the same Annual Report.
4. Samuel Gamble's report on the same, 22nd Jan., 1856.

IX. River Richelieu and Chambly Canal.

1. Plan of lock and dam at St. Ours.
2. Plan of Chambly Canal.
3. Chart of River Richelieu.
4. J. B. Jarvis' estimate on Sorel route in his report above referred to, 1855.

X. Ottawa Canal.

1. Walter Shanly's report, plans and estimate, $24,000,000
2. T. C. Clarke's report, plans and estimate, $12,058,680.

XI. Georgian Bay Canal.

1. Kivas Tully's report, plans and estimate, 1858.
2. Report of the Huron and Ontario Ship Canal, 1868.

XII. Murray Canal.

1. John Page's report, plans and estimates of these different routes.

XIII. Bay Verte Canal.

1. John Page's report, reviewing projected plans of Hall, Crawley and Telford (printed 1869).
2. Admiralty charts of Bay Verte and Bay of Fundy.

APPENDIX E.

TABULAR STATEMENT SHOWING THE TRADE OF THE WESTERN STATES AND LAKES.

1. Total yield of Grain in the United States.
2. Increase of Population and Improved Land in Grain-growing States.
3. Total Quantity of Grain raised in Grain-growing States.
4. Receipts of Flour and Grain at Principal Receiving and Shipping Ports.
5. Movement of Flour and Grain from Chicago during 1869.
6. Exports of Flour and Grain *via* Erie Canal.
7. Total Tonnage of Lake Vessels.
8. Opening and Close of Navigation of Canals, &c.
9. Copper and Iron Trade of Lake Superior.

Total Yield of Grain in the United States for Eight Years.

Years.	Wheat Bushels.	Iudian Corn Bushels.	Barley Bushels.	Oats Bushels.	Remarks.
1850	100,485,944	592,071,104	5,167,015	146,584,179	These figures are based on returns from the Agricultural Bureau at Washington.
1860	173,104,924	838,792,740	15,825,898	172,643,185	
1864	160,695,823	530,581,403	10,632,178	176,690,064	The returns for 1864, 1865, 1866 (except for Indian Corn) are for States which had not seceded.
1865	148,552,829	704,427,853	11,391,286	225,252,295	
1866	151,999,996	867,946,295	11,283,807	268,141,077	
1867	212,441,400	768,320,000	25,727,000	278,698,000	
1868	224,036,600	806,527,000	22,896,100	254,900,000	
1869	265,000,000	875,000,000	29,000,000	300,000,000	

POPULATION OF WESTERN CITIES.

	1850	1860	1870		1850	1860	1870
Chicago	29,963	109,260	298,983	Toledo	3,829	13,768	31,546
Detroit	21,019	45,619	79,580	St. Paul	.....	10,401	20,031
Milwaukee	20,061	45,246	71,499	Buffalo	42,261	81,129	117,715
Cleveland	17,034	43,417	92,846	Oswego	12,205	19,826	20,915

Table showing the Increase of Population, and the Number of Acres of Improved Land in the Grain-growing States, since 1840.

States.	Area of Square Miles.	1840.		1850.		1860.		1870.	
		Population.	Improved Land.	Population.	Improved Land.	Population.	Improved Land.	Population.	Improved Land.
Ohio	39,964	1,519,467	7,558,750	1,980,329	9,851,493	2,339,511	12,668,787	2,662,302	No Returns available.
Michigan	56,243	212,267	.....	397,654	1,929,110	749,113	3,419,861	1,184,653	
Indiana	33,809	685,866	3,485,729	988,416	5,046,543	1,350,428	8,161,717	1,655,675	
Illinois	55,045	476,183	2,818,373	851,470	5,039,545	1,711,951	12,251,473	2,529,410	
Missouri	67,380	383,702	1,653,011	682,044	2,938,425	1,182,012	6,246,871	1,691,693	
Iowa	55,405	43,112	184,969	192,214	824,682	674,913	3,780,253	1,191,359	
Wisconsin	53,924	30,945	105,930	305,391	1,045,499	775,881	3,746,036	1,055,501	
Minnesota	83,531	.....	.....	6,077	5,035	172,123	554,397	424,543	
Kansas	80,000	.....	.....	.....	.....	107,206	372,855	379,497	

Total Population of the United States .. 1850 .. 23,191,876 .. per centage of increase over 1840 .. 35·87
1860 .. 31,443,321 .. " " 1850 .. 35·58
1870 .. 38,312,633 .. " " 1860 .. 21·52

Table of Quantity of Grain raised in Nine Grain-growing States since 1850.

States.	Wheat, Bushels.			Corn, Bushels.			Oats, Bushels.			Rye, Bushels.			Barley, Bushels.		
	1850.	1860.	1869.	1850.	1860.	1869.	1850.	1860.	1869.	1850.	1860.	1869.	1850.	1860.	1869.
Ohio	14487351	14532570	20400000	59078695	70637140	68250000	13472742	15479133	27000000	425918	656146	1050000	354358	1601082	2600000
Indiana	6214458	15219120	20600000	52964363	69641591	73000000	5635014	5028755	12400000	98972	400226	575000	45483	296374	410000
Illinois	9414755	24159500	30000000	57646984	115296779	122000000	10087241	15336072	35000000	83364	961322	675000	110795	1175651	1250000
Michigan	4925889	8313185	16800000	5641420	12152110	14100000	2866056	4073098	8700000	105871	497197	630000	75249	305914	650000
Wisconsin	4286131	15812625	24000000	1988979	7565290	9500000	3414672	11059270	22000000	81253	888534	76000	209692	678992	1500000
Minnesota	1401	2195812	19000000	16725	2987570	5750000	30582	2202050	12500000	125	124259	56000	1216	125130	820000
Iowa	1530581	8433205	25000000	8656799	41116994	78500000	1524345	5879653	19000000	19916	176055	540000	25093	454116	1200000
Missouri	2981652	4227586	7500000	26214537	72892157	80500000	5278079	3680870	6500000	44268	293262	325000	9631	228502	300000
Kansas	.....	.....	2800000	.....	.....	24500000	.....	.....	1500000	.....	.....	20000	.....	.....	25000

Total Number of Swine in all States, 1869—46,945,931.

RECEIPTS of Flour and Grain at principal Receiving and Shipping Ports in the United States and Canada for three years.

PRODUCE.	MILWAUKEE.			CINCINNATI.		
	1867.	1868.	1869.	1867.	1868.	1869.
Flour, barrels	457,933	567,358	723,520	577,296	522,297	571,230
Grain, bushels	13,706,304	14,806,375	18,856,812	5,625,294	3,919,510	4,948,011
	CHICAGO.			OGDENSBURG.		
Flour, barrels	1,720,001	2,192,413	2,218,822	240,296	225,471	247,895
Grain, bushels	52,175,750	59,814,374	53,432,811	2,507,515	2,701,471	2,884,701
	DETROIT.			TORONTO.		
Flour, barrels	1,030,541	1,290,292	960,800	67,953	62,187	85,747
Grain, bushels	2,949,401	4,916,455	3,289,372	2,283,283	1,877,389	2,293,327
	TOLEDO.			ERIE.		
Flour, barrels	717,371	868,524	906,736	.....	117,759	156,328
Grain, bushels	9,545,050	11,280,525	12,969,713	.....	1,341,320	1,629,467
	BUFFALO.			MONTREAL.		
Flour, barrels	1,440,056	1,562,731	1,598,487	693,154	790,641	984,192
Grain, bushels	43,646,789	42,497,402	37,056,962	5,915,106	4,400,412	8,118,827
	OSWEGO.			ST. LOUIS.		
Flour, barrels	3,277	1,170	3,526	944,075	671,013	1,119,043
Grain, bushels	14,637,170	13,981,527	13,378,912	13,128,380	11,031,294	13,735,052
	CLEVELAND.			NEW YORK.		
Flour, barrels	662,272	737,204	800,000	2,619,002	2,869,170	3,502,830
Grain, bushels	6,007,825	7,359,484	6,000,000	36,957,785	47,592,130	48,692,420
	BOSTON.			BALTIMORE.		
Flour, barrels	1,402,826	1,467,681	1,479,975	161,260	246,446	359,121
Grain, bushels	4,846,624	4,816,070	5,434,143	9,155,105	7,793,508	8,562,228
	PORTLAND, ME.			PHILADELPHIA.		
Flour, barrels	602,269	669,045	439,648	536,829	759,366	859,121
Grain, bushels	2,058,111	941,760	413,109	5,372,727	8,354,377	8,562,228
	DUNKIRK.			NEW ORLEANS.		
Flour, barrels	11,688	5,298	8,526	993,334	868,068	1,276,921
Grain, bushels	595,139	212,662	247,888	4,062,164	2,018,334	1,906,798
	FREMONT, OHIO.					
Grain, bushels	266,000	246,000	248,000			

MOVEMENT of Flour and Grain from Chicago during 1869.

Shipped by.	Flour, Barrels.	Wheat, Bushels.	Corn, Bushels.	Oats, Bushels.	Rye, Bushels.	Barley, Bushels.
By Lake.						
To Buffalo	488,228	8,205,430	11,522,561	4,889,626	97,087	26,559
To Oswego	.....	533,165	654,737	25,376	20,569	.....
To Ogdensburg	94,780	109,663	1,348,359	63,175	.....	.....
To Port Huron	193,744	27,969	1,072,032	102,423	.....	.....
To other American Ports	44,982	425,679	933,199	703,283	14,900	5,800
To Port Colborne	.....	400,450	951,861	.....	.....	.....
To Kingston	.....	1,332,200	142,422	7,300	.....	.....
To Montreal	6,352	196,528	15,905	.....	.....	.....
To other Canadian Ports	1,186	49,294	378,964	.....	.....	.....
Total by Lake	829,272	11,279,514	17,019,940	5,791,183	133,156	32,359
Illinois and Michigan Canal	936	68,912	63,387	38,339	3,140	181
Chicago and N.W. Railroad	3,794	44,181	13,458	2,867	360	4,659
Illinois and Central do	105,934	10,190	350	3,000	990	33,090
Chicago, Rock Island, and Pacific Railroad	10,590	35,500	.....	109	6,269	52,215
Chicago, Burlington, & Quincy Railroad	5,218	33,777	30,253	160	2,174	49,160
Chicago and Alton Railroad	60,084	13,922	.....	770	.....	163,965
Michigan Central do	220,678	207,845	1,727,977	763,534	78,491	47,313
Lake Shore and Michigan Southern Railroad	360,736	592,863	1,664,159	1,006,155	43,563	14,754
Pittsburg, Fort Wayne, and Chicago Railroad	469,141	424,522	714,510	817,940	252,771	165,558
Pittsburg, Cincinnati, and St. Louis Railroad	272,680	533,023	350,774	376,529	277,830	69,980
Total shipments	2,339,063	13,244,249	21,586,808	8,800,646	798,744	633,753

Total receipts in Chicago in 1869 were :—

Flour	2,218,822	barrels.
Wheat	16,876,760	bushels.
Corn	23,475,809	do
Oats	10,011,940	do
Rye	955,201	do
Barley	1,513,110	do

Exports of Flour and Grain from Buffalo, *via* Erie Canal for Four Years.

Articles.	1866.	1867.	1868.	1869.
Flour, barrels	52,325	15,468	5,744	51,028
Wheat, bushels	7,772,217	10,109,718	10,369,030	16,333,480
Corn "	25,548,596	14,931,812	15,099,136	7,816,960
Oats "	8,922,433	9,409,686	10,423,504	3,933,046
Barley "	1,301,715	1,206,733	209,218	82,423
Rye "	972,647	736,578	633,899	75,792
Total Grain, bushels	44,517,608	36,394,527	36,731,787	28,322,707
Flour reduced to Wheat	261,625	77,340	28,870	259,640
Grand Totals	44,779,233	36,471,867	36,763,657	28,582,347

Total Tonnage of Lake Vessels (American) for a Series of Years.

—	1860.		1861.		1862.		1863.		1865.		1866.	
	No.	Ton.	No.	Ton.	No.	Ton.	No.	Ton.	No.	Ton.	No.	Ton.
Steamers	138	69150	147	64669	143	53522	124	51522	141	46811	132	41870
Propellers	197	61550	203	60951	253	69666	286	78035	298	86714	139	75287
Barks	58	23417	62	25118	74	32203	1	310	155	66078		
Barkantines	.....	.....	.....	.....	.....	.....	142	63341	1	66078		
Brigs	90	25047	86	24871	85	24831	1	307	1	307		
Brigantines	.....	.....	.....	.....	.....	.....	84	23835	69	20946	1543	376370
Schooners and Sloops	974	198661	.....	.....	.....	.....	.....	.....	.....	.....		
Schooners	.....	.....	959	204900	1066	227519	1095	225868	985	207098		
Sloops	.....	.....	15	2800	16	667	16	725	16	519		
Barges	.....	.....	.....	.....	3	3719	121	26091	84	21452	123	30062
Tugs	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	234	23867
Totals	1457	377825	1502	383309	1640	412127	1870	470034	1747	449928	2171	547267
Value	$10655200		$11862450		$13229620		$16720800		$14378600		$7537440	

Opening and Close of Navigation of Lakes, and St. Lawrence.

Bay of Superior.

Years.	Opened.	Closed.
1861	June 12	December 12
1862	April 28	" 16
1863	May 10	" 7
1864	April 23	" 1
1865	April 22	" 5
1866	May 5	" 10
1867	April 19	" 1
1868		
1869		

Straits of Mackinaw.

Years.	Opened.	Closed.
1861	April 24	
1862	" 17	
1863	" 16	
1864	" 22	
1865	" 20	
1866	" 28	
1867	" 21	
1868	" 20	
1869	" 23	

St. Paul, Min.

Years.	First Arrival.	Last Departure.
1861	April 8	November 26
1862	" 18	" 15
1863	" 6	" 24
1864	" 14	" 11
1865	" 15	December 1
1866	" 19	November 23
1867	" 21	" 28
1868	" 4	" 26
1869	" 19	" 20

Oshkosh, Wis.

Years.	Opened.	Closed.
1861	April 4	November 23
1862	" 15	" 20
1863	" 3	" 24
1864	" 13	December 3
1865	" 10	" 4
1866	" 23	" 1
1867	" 15	November 26
1868	March 31	December 1
1869	April 12	November 19

Racine River.

Years.	Opened.	Closed.
1866		December 10
1867		November 29
1868		December 1
1869		" 2

Milwaukee River.

Years.	Opened.	Closed.
1861	March 23	November 24
1862	" 26	" 29
1863	" 17	" 29
1864	" 12	" 29
1865	" 21	December 8
1866	April 2	" 8
1867	" 4	November 30
1868	March 13	December 2
1869	" 26	" 3

Detroit River.

Years.	Opened.	Closed.
1861	March 11	
1862	" 29	
1863	" 20	
1864	" 13	
1865	" 25	
1866	April 4	
1867	" 8	
1868	" 24	
1869	" 5	

Illinois and Michigan Canal.

Years.	Opened.	Closed.
1861	March 4	November 28
1862	" 24	December 3
1863	" 4	November 30
1864	" 10	" 30
1865	April 3	" 14
1866	" 11	October 31
1867	" 10	November 15
1868	" 4	October 31
1869	" 7	November 15

Welland Canal.

Years.	Opened.	Closed.
1861	April 12	December 19
1862	" 6	" 17
1863	" 14	" 15
1864	" 17	" 17
1865	" 17	" 13
1866	" 17	" 15
1867	" 15	" 6
1868	" 20	" 17
1869		" 11

Marquette.

Years.	First Arrival.	Latest Arrival at Detroit from Marquette.
	May 5	December 8
	" 6	" 5
	" 7	" 1

Opening and Close of Navigation of Lakes and St. Lawrence.—*Continued.*

Oswego.

Years.	First Arrival.	Last Departure.
1861	April 2	December 23
1862	" 2	" 19
1863	" 3	" 15
1864	" 5	" 17
1865	" 1	" 17
1866	March 15	" 15
1867	April 3	" 9
1868	" 3	" 4
1869	" 3	" 20

Toledo.

Years.	First Arrival.	Last Departure.
1861	.....	December 13
1862	.....	" 12
1863	.....	" 13
1864	.....	" 6
1865	.....	" 10
1866	.....	" 15
1867	.....	" 6
1868	.....	" 2
1869	.....	November 29

Lake Erie.

Years.	Lake Opened.	Canal Opened.	Canal Closed
1861	April 13	May 1	December 16
1862	" 5	" 1	" 7
1863	" 7	" 1	" 18
1864	" 13	April 30	" 8
1865	" 26	May 1	" 12
1866	" 28	" 1	" 12
1867	" 27	" 6	" 10
1868	" 11	" 6	" 7
1869	May 1	" 6	" 13

Hudson River.

Years.	Opened.	Closed.
1861	April 4	December 23
1862	" 7	" 19
1863	March 11	" 16
1864	" 22	" 12
1865	" 23	" 16
1866	" 22	" 25
1867	" 23	" 9
1868	April 3	" 14
1869	.....	" 6

Buffalo.

Years.	First Arrivals.	Last Clearances.
1861	April 18	December 10
1862	" 4	" 16
1863	" 7	" 17
1864	" 16	" 12
1865	" 26	" 10
1866	" 28	" 6
1867	" 19	" 10
1868	" 13	" 5
1869	May 2	" 4

Montreal. (*See Appendix* H.)

Rideau Canal, Ottawa.

Years.	Opened.	Closed.
1864	May 1	December 2
1865	April 17	" 4
1866	May 1	" 6
1867	" 4	" 6
1868	" 1	November 30

Production of Copper and Iron Mines of Lake Superior District.

Iron.

Years.	Tons.	Value.
1856	7,000	$28,000
1857	21,000	60,000
1858	32,661	249,202
1859	72,937	575,529
1860	122,658	736,496
1861	53,400	419,501
1862	124,311	984,977
1863	195,070	1,416,935
1864	248,955	1,867,215
1865	207,539	1,590,430
1866	315,309	2,405,960
1867	496,987	3,475,820
1868	546,059	3,992,413
1869	372,241	4,968,435
Total...	3,119,630	$22,769,713

Copper.

Years.	Tons.	Value.
1845 to 1857	18,954	$9,000,000
1858	3,500	1,886,000
1859	4,200	1,890,000
1860	6,000	2,610,000
1861	7,500	3,337,000
1862	9,962	3,402,000
1863	8,548	4,420,000
1864	8,472	6,110,000
1865	10,991	5,148,000
1866	10,376	4,760,000
1867	11,735	4,140,000
1868	13,049	4,592,000
1869	15,200	5,368,000
Total	128,275	$56,661,000

APPENDIX F.

TABULAR STATEMENTS, SHOWING POPULATION AND TRADE OF THE PROVINCES OF BRITISH NORTH AMERICA.

1. Population and Area.
2. Agricultural Resources.
3. Imports and Exports.
4. Trade of the Dominion, 1868, 1869, 1870.
5. Statistical view of the Commerce of Canada.
6. Trade of Principal Ports on the Lakes and St. Lawrence.
7. Lumber and Timber Trade.
8. Exports and Imports by the St. Lawrence.
9. Coal Trade.
10. Shipping Interests.

Population, Area, &c.

Provinces.	Population in 1861.*	Rate of Increase.	Estimated in 1871.	Area in Square Miles.
Ontario	1,396,091	4·34	2,136,308	120,260
Quebec	1,111,566	2·50	1,422,546	210,020
Nova Scotia	330,857	1·82	396,449	18,671
New Brunswick	252,047	2·60	329,800	27,105
Prince Edward Island	80,857	2·07	99,261	2,173
Newfoundland (1857)	124,288	.....	148,387†	40,200
British Columbia	34,816	.....	65,000	220,000
Manitoba	100,000	.....	12,000	say 2,730,000
N. W. Territory			100,000	
Total population of British America	3,430,522	.....	4,707,751	

	1811.	1851.	1861.	1871. Estimated.
Population of Ontario	77,000	952,000	1,396,091	2,136,308

* These returns include Indian population.
† By Census in 1869, Newfoundland had a population of 146,533, or an increase of 1,854 per annum since 1857.

Total quantity of Wheat, Barley, Rye, Buckwheat, Indian Corn, Peas, and Beans, raised in the following Provinces :—

Province.	Bushels raised in 1851.	Bushels per Inhabitant.	Bushels raised in 1861.	Bushels per Inhabitant.
Ontario	30,129,622	31½	74,971,828	54
Quebec	15,190,027	17	23,534,003	21⅙
Nova Scotia	2,168,455	8	2,851,767	8⅔
New Brunswick	2,485,991	12⅔	3,796,487	15
Prince Edward Island	1,041,691	16⅓	2,838,025	35
Wheat raised in—				
Ontario	12,692,852	13½	24,620,425	16½
Quebec	3,075,868	3½	2,563,114	2⅓
Nova Scotia	297,159	1 1/10	312,081	1
New Brunswick	266,269	1 1/10	279,775	1 1/10
Prince Edward Island	219,789	3½	346,125	4¼
Oats raised in—				
Ontario	11,193,844	11¾	21,220,874	15⅓
Quebec	8,967,594	10¾		
Nova Scotia	1,384,437	5	1,978,137	6
New Brunswick	1,411,164	7¼	2,656,883	10½
Prince Edward Island	916,383	12	2,218,578	27⅓

IMPORTS AND EXPORTS of the Five Provinces of British North America for following years.

ONTARIO AND QUEBEC.	1851.	1857.	1860.	1861.	1864.	1865.	1867.	1869.	1870.	Duty in 1870.
Imports	$22,022,045	$39,430,598	$34,447,935	$43,064,836	$49,753,469	$44,620,469	$59,648,987	$55,185,667	$59,019,092	Ontario $2,421,710.80
Exports	13,319,915	27,006,624	34,631,890	36,614,195	43,718,191	42,481,151	48,486,143	49,176,751	62,466,867	Quebec 4,869,359.31

NOVA SCOTIA.	1851	1857.	1860.	1861.		1865.		1869.	1870.	
Imports	5,970,877	9,680,880	8,511,549	7,613,227	.....	14,381,662	.....	8,607,244	8,940,800	..... 1,162,592.51
Exports	4,853,903	6,967,830	6,619,534	5,774,334	.....	8,836,693	.....	5,743,571	5,803,417	

NEW BRUNSWICK.	1851.	1857.	1860.			1866.		1869.	1870.	
Imports	4,077,655	7,605,890	7,233,700	.....	.....	10,000,794	.....	6,622,254	6,854,447	..... 1,017,777.82
Exports	3,290,090	5,366,755	4,581,850	.....	.....	6,373,705	.....	5,554,519	5,303,206	

NEWFOUNDLAND.	1856.	1857.	1859.	1860.		1866.		1869.
Imports	6,358,020	7,067,160	6,620,680	6,270,640	.....	5,784,849	.....	5,254,152
Exports	6,693,985	8,255,855	6,785,565	6,358,560	.....	5,694,305	.....	7,300,636

PRINCE EDWARD ISLAND.	1856.	1857.	1859.	1860.		1866.		1869.
Imports	1,185,000	1,120,000	1,175,000	1,150,000	.....	.....	.....	1,720,000
Exports	1,100,000	1,110,000	1,085,000	1,007,170	.....	.....	.....	1,825,000

Total trade of Dominion in 1870 ..... $148,387,820
do do 1851 53,534,485

Total trade of five British American Provinces in 1869 146,989,734

Recapitulation of Principal Exports for following years.

—	1868.	1869.	1870.	Duty in 1870.
	$	$	$	$
Products of Mines	1,446,857	2,093,502	2,487,038	
do Fisheries	3,357,510	3,242,710	3,608,549	
do Forest	18,262,170	19,838,963	20,940,434	
Animals and their products	6,893,167	8,769,407	12,138,161	
Agricultural products	12,871,055	12,182,702	13,676,619	37,012 28
Manufactures	1,572,546	1,765,461	2,133,659	
Other Articles	302,280	350,559	371,652	
Vessels built at Quebec	837,592†	1,080,000*	725,080	
Total Produce of Dominion	45,543,177	49,323,304	56,081,192	37,012 28
Coin and bullion	4,866,168	4,218,208	8,002,978	
Goods not produce of the Dominion	4,196,821	3,855,801	6,527,622	
Short at Inland Ports	2,961,722	3,077,468	2,962,398	
Grand Total of Exports	57,567,888	60,474,781	73,573,490	37,012 28

* 37—27,000 tons. † 32--22,722 tons.

Statistical View of the Commerce of Canada for Fiscal Year 1870.

—	Value of Exports.	Goods entered for Consumption.	Duty.	Vessels entered Inwards.	Vessels cleared Outwards.
				Tons.	Tons.
	$	$	$ cts.		
Great Britain	24,950,925	38,595,433	5,037,439 70		
United States	32,984,652	24,728,166	1,738,162 99		
France	276,420	1,394,346	392,871 74		
Germany	15,535	469,275	121,863 60		
British North American Provinces	1,421,423	1,268,946	84,421 96		
British West Indies	1,512,780	892,134	387,136 75		
Spanish West Indies	1,280,268	2,423,421	1,041,284 79	5,796,125	5,619,745
China	.....	432,919	156,618 76		
Spain	85,082	314,925	64,452 48		
Other Foreign Countries	1,554,385	718,036	302,724 30		
Goods not the produce of Canada	6,527,622	.....	.....		
Miscellaneous	.....	.....	136,963 37		
Totals	73,573,490	91,237,603	9,462,940 44		

Exports and Imports of principal Ports of Ontario and Quebec on the St. Lawrence and Lakes, year ending June 30, 1870.

Ports.	Exports.	Imports.
	$	$
Montreal	19,100,413	25,680,814
Quebec	10,131,165	5,670,332
Rimouski	86,092	1,200
Three Rivers	103,273	49,334
Amherstburg	126,542	36,863
Belleville	587,834	155,252
Brockville	701,918	322,576
Burwell	93,490	8,928
Clifton	3,958,516	2,985,903
Cornwall	64,005	46,047
Cramahe	79,913	56,340
Darlington	164,540	106,159
Dover	211,852	18,773
Fort Erie	2,355,350	55,260
Gananoque	64,279	28,403
Goderich	16,933	119,943
Hamilton	862,936	3,662,550
Hope	1,171,020	183,227
Kingston	1,527,519	5,441,554
Morrisburg	182,333	47,727
Napanee	499,949	54,252
Oakville	97,549	8,975
Oshawa	132,864	69,317
Paris	154,813	51,586
Penatanguishene	74,727	736
Prescott	746,215	394,076
Sarnia	495,379	189,775
Sault Ste. Marie	18,293	64,705
Stanley	127,660	28,704
Toronto	2,039,215	7,268,015
Wallaceburg	227,478	6,909
Whitby	396,498	87,219
Windsor	343,381	488,548

Timber and Lumber Exported from Ontario and Quebec since 1859.

Years.	Values of Total Exports.			Value of Plank and Boards to the U. S.
	To all Countries.	To Great Britain.	To the U. S.	
1860	10,661,147	6,130,776	4,846,611	3,027,730
1861	8,693,530	6,408,789	2,065,870	1,507,546
1862	10,051,147	4,896,533	3,153,589	2,279,567
1863	12,264,178	7,713,316	4,155,290	2,963,426
1864-'5	13,008,595	7,971,991	4,765,539	3,292,451
1865-'6	12,741,983	6,445,137	6,055,546	4,603,554
1866-'7	13,224,704	6,325,995	6,671,438	5,043,367
1867-'8	13,752,084	6,339,474	7,091,972	5,537,089
1868-'9	14,483,157	7,508,817	6,566,520	5,303,303

PROPORTIONS SHIPPED TO DIFFERENT COUNTRIES IN 1869.

	Per cent.
To United States—Plank and Boards	96,854
" " Products of Forest	43,935
To Great Britain—Plank and Boards	0,221
" " Products of Forest	52,965

AGGREGATE VALUE OF PRODUCTS OF FOREST EXPORTED.

	Products of Forest. Total Value.	Plank and Boards. Feet.
Fiscal Year, 1868-'69	$19,838,963	667,859,000
" " 1867-'68	18,262,170	671,025,000

Exports and Imports *via* St. Lawrence for following years.

Years.	Total Imports.	Imports *via* St. Lawrence.	Total Exports.	Exports *via* St. Lawrence.
	$	$	$	$
1858	29,678,527	10,795,077	23,472,609	8,983,773
1859	33,555,161	11,472,754	24,766,981	8,400,096
1860	34,441,621	13,527,160	34,631,890	13,288,135
1861	43,046,823	16,726,541	36,614,195	17,607,744
1862	48,600,633	17,601,019	33,596,125	14,411,849
1863	45,964,493	16,439,930	41,831,532	16,391,172
1865	64,620,469	18,828,495	42,481,151	15,703,821

Importations of Coal and Coke into Ontario and Quebec.

—	Total Imports.	Value.	From Great Britain.	From United States.
	Tons.	$	Tons.	Tons.
Fiscal year 1868-'69	356,376	1,288,831	482,550	795,337
" " 1867-'68	354,623	1,363,207	539,606	791,676
" " 1866-'67	299,507	1,253,115	472,710	730,676
" " 1865-'66	220,276	906,700	419,847	455,890

American Coal *via* Welland Canal.

Fiscal Years to 30th June.	From American to Canadian Ports.	From American to American Ports.	Total Tons of 2,000lbs. each.	Remarks.
	Tons.	Tons.		
1864-'65	35,592	2,102	37,694	
1865-'66	34,967	2,429	37,396	
1866-'67	64,855½	3,786	68,641½	
1867-'68	63,128½	3,633	66,661½	
1868-'69	71,415	3,888½	75,303½	71,006½ for consumption in Canada.

Imports into Ontario *via* Oswego.

	Tons.
1860	17,644
1861	33,475
1862	25,981
1863	26,697
1864	37,498
1865	18,090
1866	32,237
1867	42,470
1868	46,280
1869	46,295

Return of Vessels owned and registered in Dominion of Canada, 1st July, 1867.

Provinces.	Total.		Occupation.								Value.	No. of Men Employed
			Sea-going.		River or Lake.		Trading.		Fishing.			
	No.	Tons.	No.	Tons.	No.	Tons.	No.	Tons.	No.	Tons.	$	
Ontario	481	66,959	1	125	480	66,834	480	66,937	1	22	2,787,800	3,191
Quebec	1,428	155,690	304	63,012	1,124	92,678	1,386	153,959	42	1,731	4,633,945	8,548
New Brunswick	826	200,777	588	188,399	238	12,378	717	198,132	109	2,655	5,902,505	6,207
Nova Scotia	3,087	352,917	3,081	352,646	6	271	1,479	302,416	1,608	50,501	10,256,812	19,288
Total	5,822	776,343	3,974	604,182	1,848	172,161	4,062	722,444	1,760	54,899	23,583,062	37,235

Total for all British North American Provinces :—

No	7,591
Tonnage	899,096
Value	$35,000,000

APPENDIX G.

FLOUR AND GRAIN TRADE.

1. Imports and Exports.
2. American Flour and Grain *via* Canada.
3. Flour and Grain at Port Colborne *via* Welland Canal.
   " " " *via* Welland R. R.

FLOUR AND GRAIN.

Imports and Exports of the Dominion of Canada for two years.

Articles.	Imports.		Exports.			
	Total Quantity.	Quantity from U. S.	Total Quantity.	To Great Britain.	To United States.	To other Countries.
1867–'68.						
Flour and Meal—Barrels..	285,627	283,944	383,944	163,555	126,337	93,452
Wheat Bushels..	2,734,809	2,734,756	2,284,702	717,604	1,564,273	2,825
Corn " ..	2,376,353	2,205,298	10,057	3	9,374	680
Peas " ..			2,133,813	1,215,384	901,425	19,044
Oats " ..			1,738,441	927,642	776,720	34,079
Barley and Rye " ..			4,055,672	118,198	3,937,647	27
1868–'69.						
Flour and Meal—Barrels..	456,778	455,224	399,081	193,458	100,692	104,931
Corn Bushels..	2,561,240	2,559,810	6,093	.....	5,104	989
Wheat " ..	3,591,948	3,250,432	2,809,208	1,577,734	1,231,237	237
Peas " ..			1,046,300	596,290	432,339	17,671
Oats " ..			762,620	431,075	271,337	60,208
Barley " ..			4,630,069	400	4,629,608	61

Quantities of Flour and Grain passing into Canada from the United States; also quantities in transit to Ports in the United States since the repeal of the Reciprocity Treaty.

	Flour—Barrels.		Wheat—Bushels.		Indian Corn—Bushels		Other Grain—Bushels	
	To Canada.	Transit to U. S.	To Canada.	Transit to U. S.	To Canada.	Transit to U. S.	To Canada.	Transit to U. S.
1866.....	8,102	886,314	14,963	5,032,071	488,401	4,250,232	26,168	20,425
1867.....	4,401	1,073,686	23,804	5,148,714	295,726	5,448,144	3,128	223,719
1868.....	63,546	1,455,947	87,223	7,151,612	526,731	5,680,996	18,502	865,020
1869.....	105,963	1,306,054	5,458,692	7,996,233	1,186,947	7,024,835	65,835	1,248,470
Total.....	182,012	4,702,001	5,584,682	25,328,639	2,487,085	22,404,207	113,633	2,357,634

Flour and Grain passing into Canada at Port Colborne by Welland Canal.

——	Flour.	Corn Meal	Wheat.	Indian Corn.	Barley.	Oats and other Grain.
1869.	Barrels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.
Total passing inwards	267,400	338	13,605,129	3,215,685	9,466	343,822
From Canadian to Canadian Ports.....	1·20 p.c.	.....	4·[illegible] p.c.	.....	all	55·51 p.c.
From Canadian to U. S. Ports.....	.....	.....	0·33 ,,	.....	.....	3·47 ,,
From U. S. to U. S. Ports.	94·27 p.c.	0·51 p.c.	54·86 ,,	93·27 p.c.	.....	38·76 ,,
From U. S. to Canadian Ports.....	4·53 ,,	99·49 ,,	40·02 ,,	6·73 ,,	.....	2·26 ,,
1868.						
Total passing inwards ...	289,526	7,154	8,914,710	5,460,480	53,788	1,329,360
From Canadian to Canadian Ports	0·24 p.c.	21·30 p.c.	3·20 p.c.	.....	2·26 p.c.	16·44 p.c.
From Canadian to U. S. Ports.....	.....	.....	1·10 ,,	.....	26·39 ,,	14·07 ,,
From U. S. to U. S. Ports.	91·16 p.c.	0·25 p.c.	74·67 ,,	72·75 p.c.	71·35 ,,	61·06 ,,
From U. S. to Canadian Ports.....	8·60 ,,	78·45 ,,	21·03 ,,	27·25 ,,	.....	6·43 ,,
1867.						
Total passing inwards	237,687	2,683	7,239,773	5,510,699	113,224	562,274
From Canadian to Canadian Ports	0·55 p.c.	.....	3·47 p.c.			
From Canadian to U. S. Ports.....	.....	.....	1·91 ,,	.....	1·60 p.c.	
From U. S. to U. S. Ports.	92·92 p.c.	63·13 p.c.	69·95 ,,	80·98 p.c.	98·40 ,,	
From U. S. to Canadian Ports.....	6·53 ,,	36·87 ,,	26·67 ,,	19·02 ,,		

Quantities of Flour and Grain passing into Canada *via* Welland Railroad.

Years.	Flour.	Wheat.	Indian Corn.	Other Grain.
	Barrels.	Bushels.	Bushels.	Bushels.
1869	25,105	1,526,306	968,773	1,892
1868	693	995,009	1,447,027	100
1867	2,580	1,202,741	720,585	61,027
1866	.....	1,343,891	2,124,063	111,612
Aggregate in four years	28,378	5,067,947	5,260,448	174,631

Aggregate quantities passing into Canada *via* the Canal and the Railway.

Years.	Flour.	Wheat.	Indian Corn.	Other Grain.
	Barrels.	Bushels.	Bushels.	Bushels.
1969	292,843	15,131,434	4,184,458	355,160
1868	297,379	9,909,919	6,907,515	1,383,248
1867	242,950	8,442,514	6,231,284	726,525
1866	151,424	7,100,470	7,271,915	736,111
Aggregate in four years	984,590	40,584,138	24,595,172	3,211,044

APPENDIX H.

TRADE OF MONTREAL.

1. Receipts and Shipments of Flour and Grain for several years.
2. Opening and Close of Navigation, together with amount of sea-going Tonnage during 9 years.
3. River Craft.
4. Flour and Grain shipped, *via* the St. Lawrence.
5. Breadstuffs received by Lachine Canal.
6. " " Grand Trunk Railway, &c.

Flour and Grain receipts at, and shipments from, Montreal during 1849, 1854, 1859, 1860, 1868, 1869.

Years.	Flour.		Wheat.		Corn.		Peas.		Barley.		Oats.	
	Received.	Shipped.	Received.	Shipped.	Received.	Shipped.	Received.	Shipped.	Received.	Shipped.	Received.	Shipped.
	Barrels.	Barrels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.
1849	485,901	535,593	357,900	481,768	50,514	.....	48,637	6,985	2,911	357	18,243	12,001
1854	484,864	97,724	531,785	122,636	651,149	146,748	10,698	67,264	21,457	.....	11,927	
1859	575,810	105,973	635,424	58,005	71,430	3,015	113,186	344,189	27,925	29,068	63,093	12,600
1860	577,196	277,567	2,622,602	1,645,209	138,214	24,387	776,129	1,298,845	27,483	252	37,637	206,732
1868	790,311	683,612	2,426,869	1,081,958	1,086,152	982,497	520,395	663,545	267,416	451,366	215,075	903,024
1869	975,295	966,067	7,462,033	6,595,332	141,982	108,018	559,984	576,984	66,238	163,372	84,086	330,730

Comparative Statement of the Opening and Close of Navigation, Arrivals and Departures, Tonnage, &c., of sea-going Vessels during the past Nine Years. (Montreal.)

Year.	Opening of Navigation.	Close of Navigation.	First Vessel from Sea.	Last Vessel from Sea.	No. of Steamers.	Tonnage.	Vessels from Lower Ports.	Tonnage.	Vessels to Lower Ports.	Tonnage.	Vessels to other Ports.	Tonnage.	Total No. of Vessels.	Tonnage.	Greatest No. of Vessels in Port at one time.
1861	April 24	Dec. 22	April 27	Dec. 4	40	51,298	115	15,306	101	7,894	433	202,601	574	261,793	117, June 6.
1862	" 23	" 7	" 28	Nov. 27	53	62,912	103	14,271	88	6,983	430	195,348	571	265,243	78, October 16.
1863	" 25	" 12	May 6	" 26	54	59,469	101	13,664	81	8,179	369	144,584	504	209,224	86, June 13.
1864	" 13	" 11	April 28	Dec. 7	51	59,071	75	9,039	90	8,628	237	94,202	378	161,901	32, June 23.
1865	" 10	" 16	May 3	Nov. 24	63	78,015	114	12,065	113	11,152	182	63,725	358	152,943	42, October 19.
1866	" 19	" 15	" 1	" 28	70	75,474	172	21,380	173	19,044	273	111,257	516	205,775	91, June 13.
1867	" 22	" 6	" 4	" 29	106	87,199	190	29,561	159	22,813	305	176,240	464	199,053	59, October 24.
1868	" 17	" 9	" 4	" 27	105	101,566	178	22,413	177	23,034	301	175,725	478	198,759	51, June 21.
1869	" 25	" 6	April 24	" 24	117	117,965	222	37,648	198	27,177	359	232,686	557	259,863	61, Nov. 4.

Comparative Statement showing the number and tonnage of river craft, including Steamers, Barges, Bateaux, &c., in the port of Montreal during the past eight years and the greatest number at one time.

Years.	River Craft.	Tonnage.	In Port at one time.
1862	4,875	523,991	164, November 1.
1863	4,697	534,740	197, June 20.
1864	4,509	420,694	220, September 6.
1865	4,771	626,550	205, September 5.
1866	5,083	613,679	240, October 14.
1867	5,284	744,477	244, October 31.
1868	5,822	746,927	297, June, 22.
1869	5,866	721,324	259, November 5.

Flour and Grain Shipped from Montreal *via* the River St. Lawrence, including quantities by Steamships from Portland.

Years.	Flour, Barrels.	Oat and Corn Meal Barrels.	Wheat, Bushels.	Corn, Bushels.	Peas, Bushels.	Oats, Bushels.	Barley, Bushels.	Rye, Bushels.
1863	692,868	9,353	3,806,306	635,387	774,442	3,001,766	640,380	170
1864	420,509	532	2,347,126	259	469,983	1,786	375	.....
1865	205,181	3,743	591,343	657,514	596,472	199,246	2,440	.....
1866	166,586	37,028	16,671	1,831,049	1,124,616	2,993,932	247,495	73,370
1867	207,169	66,803	1,459,622	643,528	1,753,748	910,843	166,038	21,918
1868	261,285	23,101	1,044,344	730,422	657,345	711,996	6,995	.....
1869	492,768	5,045	5,496,100	78,294	490,894	60,863	171	.....

Breadstuffs received by Lachine Canal, during season of Navigation for Seven Years.

Years.	Flour, Barrels.	Oat and Corn Meal, Barrels.	Wheat, Bushels.	Corn, Bushels.	Peas, Bushels.	Oats, Bushels.	Barley and Rye, Bushels.
1863	735,182	1,511	4,970,099	861,361	651,658	352,721	305,757
1664	468,868	1,334	3,769,639	158,162	345,247	170,356	349,397
1865	441,340	1,587	2,201,645	934,071	402,776	146,555	335,783
1866	392,127	13,814	571,447	2,117,208	888,979	722,332	393,512
1867	812,936	32,862	2,441,272	890,555	1,079,263	215,342	451,339
1868	338,394	7,427	2,053,913	1,055,540	355,965	99,189	66,084
1869	436,805	3,683	6,937,200	135,493	428,689	16,489	16,018

G. T. R.

Broadstuffs received at Montreal *via* G. T. R. during 7 years.

Years.	Flour and Meal, brls.	Wheat and Peas, bush.	Corn and Rye, bush.	Barley, bushels.	Oats, bush.
1863	459,773	556,627	1,173	25,447	51,251
1864	390,271	436,518	1,398	65,660	62,200
1865	341,614	480,874	1,103	12,796	17,139
1866	321,444	319,036	15,485	58,694	206,134
1867	440,541	721,065	26,470	83,534	93,926
1868	453,553	537,386	33,248	53,733	115,886
1869	538,427	655,966	17,310	51,746	67,094

Shipments during the same period.

1863	124,767	65,902	15,267	.....	358,311
1864	134,046	29,047	16,875	20,452	137,326
1865	309,180	88,369	74,447	105,180	230,119
1866	301,958	76,464	42,785	29,618	37,672
1867	150,998	87,887	26,622	57,047	79,039
1868	172,841	19,106	36,760	66,084	54,648
1869	168,693	94,421	23,902	33,208	95,276

Monthly Imports at Montreal, in 1869, *via* Grand Trunk R. R.

Months.	Flour and Meal.	Wheat and Peas.	Corn and Rye.	Barley.	Oats.	Pork and Beef.	Pork in Carcass.	Coal Oil.	Total Freight of all kinds.
	Brls.	Bush.	Bush.	Bush.	Bush.	Brls.	Lbs.	Brls.	Tons.
January	33,564	18,053	9,626	607	6,575	357	467,717	113	11,638
February	28,812	13,379	.....	2,326	4,249	938	228,625	113	10,073
March	21,730	13,986	829	1,872	5,306	637	21,560	1,764	10,806
April	38,550	10,300	.....	125	2,031	137	.....	1,574	18,207
May	43,900	101,100	.....	.....	4,593	1,206	.....	1,354	15,432
June	57,400	145,000	.....	.....	3,125	.....	.....	1,297	15,056
July	66,500	96,333	.....	.....	5,000	.....	.....	1,189	14,003
August	38,700	54,333	.....	.....	3,125	.....	.....	2,054	12,381
September	46,500	45,033	.....	875	2,500	.....	.....	2,346	13,193
October	49,171	59,883	2,160	27,046	13,296	.....	42,000	2,582	16,898
November	62,600	56,416	1,267	15,541	6,169	346	376,100	1,101	20,376
December	51,000	41,250	2,357	3,354	14,125	445	1,733,000	684	17,900
Totals	533,427	655,966	17,310	51,746	67,094	4,066	2,869,002	16,171	175,963

Monthly Exports from Montreal, in 1869, *via* Grand Trunk Railway.

Months.	Flour and Meal.	Wheat and Peas.	Barley.	Oats.	Corn and Rye.	Pork and Beef.	Pork in Carcase.	Coal Oil.	Total freight of all kinds.
	Brls.	Bushels.	Bushels.	Bushels.	Bushels.	Brls.	Lbs.	Brls.	Tons.
January	14,360	18,053	607	6,575	9,626	357	467,717	113	11,638
February	10,409	13,379	2,326	4,249	.....	938	228,625	118	10,073
March	16,827	13,986	1,872	5,306	829	637	21,560	1,764	10,806
April	13,534	10,300	125	2,031	.....	137	.....	1,574	18,207
May	10,400	101,100	.....	4,593	1,071	1,206	.....	1,354	15,432
June	11,796	145,000	.....	3,125	.....	.....	.....	1,297	15,056
July	18,089	96,333	.....	5,000	.....	.....	.....	1,189	14,003
August	14,912	54,333	.....	3,125	.....	.....	.....	2,054	12,381
September	11,076	45,033	875	2,500	.....	.....	.....	2,346	13,193
October	11,000	59,883	27,046	13,296	2,160	.....	42,000	2,582	16,898
November	12,900	56,416	15,541	6,169	1,267	346	376,100	1,101	20,376
December	23,450	41,250	3,354	14,125	2,357	445	1,733,000	684	17,900
Totals	168,694	94,421	33,208	95,276	23,902	1,958	2,869,002	11,671	146,051

APPENDIX I.

RETURNS SHOWING TRAFFIC OF CANALS, &c.

1. Tonnage and Tolls.
2. Business of Welland and St. Lawrence Canals during 1868 and 1869.
3. Number, Nationality, and Tonnage of Vessels passing through Welland and St. Lawrence Canals.
4. Gross Revenue and Tonnage of Canals in 1849 and 1869, &c.
5. Cost of Canals, up to July 1st, 1867.
6. Dimensions and Capacity of Canadian and American Canals.

Tonnage and Tolls levied on Freight and Passengers passed through all the Canadian Canals from 1850 to 1870, inclusive, distinguishing whether from or to Canadian or United States' Ports; also Tonnage passed free.

Remarks.	Years.	From Canadian to Canadian Ports.	From Canadian to American Ports.	From American to Canadian Ports.	From American to American Ports.	Total Freight and Tolls accrued therein.		Deduct.		Net Tonnage and Tolls Collected on Freight.		Tolls Collected on freight and Vessels.	Net Revenue on Freight and Vessels.
		Tons.	Tons.	Tons.	Tons.	Tons.	Tolls.	T... Free.	Tolls refunded.	Tons.	Tolls.		
							$ cts.		$ cts.		$ cts.	$ cts.	$ cts.
Ottawa Canals not included under control of Imperial Government.	1850	538,477	224,835	52,183	221,895	1,037,390	239,898 16	.....	.....	1,037,390	239,898 16	258,123 58	258,123 58
	1851	830,212	217,500	103,962	265,120	1,416,794	279,229 70	.....	.....	1,416,794	279,229 70	304,864 90	304,864 90
	1852	896,030	153,006	38,858	409,720	1,497,614	314,114 28	.....	4,897 64	1,497,614	309,216 64	343,306 96	338,409 32
	1853	1,015,202	241,801	85,211	463,495	1,805,709	355,194 30	.....	7,571 52	1,805,709	347,622 78	390,487 02	382,915 50
	1854	1,006,006	149,636	118,663	412,999	1,687,304	293,286 67	.....	1,020 28	1,687,304	292,266 39	333,101 85	332,081 57
	1855	849,007	203,923	181,851	437,623	1,714,642	302,152 56	42,238	10,998 79	1,672,404	291,153 77	335,690 21	324,691 42
	1856	922,626	258,761	220,343	542,842	2,607,263	359,597 97	62,691	16,677 50	1,944,572	342,920 47	398,259 58	381,582 08
	1857	856,093	264,141	215,566	423,825	1,837,007	319,302 92	87,382	25,583 95	1,759,625	293,718 97	355,691 28	330,107 33
Season of Navigation.	1858	1,424,313	259,537	162,936	471,432	2,335,480	274,898 28	75,771	12,036 92	2,259,709	262,861 36	314,447 51	302,410 59
	1859	1,563,599	338,437	126,707	380,601	2,447,766	196,222 18	38,425	5,535 03	2,409,342	190,687 15	228,962 41	223,427 38
	1860	1,351,186	473,365	169,671	589,479	2,583,701	286,434 26	.....	127,340 63	2,583,701	159,093 63	333,262 56	205,921 93
	1861	1,522,029	246,742	299,798	546,323	2,614,892	369,681 58	.....	233,863 27	2,614,892	135,818 31	419,385 02	185,521 75
	1862	1,545,219	552,606	371,510	644,393	3,113,728	438,702 10	.....	283,818 55	3,113,728	154,883 55	497,305 96	213,487 41
	1863	1,664,908	491,112	274,897	621,358	3,052,275	337,697 19	.....	.....	3,052,275	337,697 19	385,220 21	385,220 21
½ year.	1864	498,449	127,756	69,112	158,764	812,496	91,371 69	.....	4,533 05	812,496	86,838 64	106,611 80	102,078 75
Fiscal years.	1865	1,390,930	433,575	346,463	257,846	2,537,897	258,493 96	109,083	17,148 30	2,428,814	241,345 66	299,905 47	282,757 17
	1866	1,538,111	671,042	194,404	465,715	2,955,386	279,157 23	86,114	14,602 53	2,869,272	264,554 70	318,597 74	304,352 24
	1867	1,690,316	736,057	234,223	461,074	3,235,754	293,495 01	108,084	16,843 88	3,127,670	276,651 13	325,283 42	318,439 54
	1868	1,752,425	810,939	278,706	644,946	3,599,043	332,174 59	111,927	15,352 86	3,487,116	316,821 73	381,129 18	365,77[illegible] 32
	1869	1,716,529	743,946	305,221	690,881	3,605,039	320,773 96	148,462	2,425 28	3,456,577	318,348 68	369,982 10	367,55[illegible] 82
	1870	2,368,871	858,870	330,794	685,350	4,276,820	389,179 61	261,418	37,469 03	4,015,402	351,710 58	444,932 25	407,463 22

WELLAND AND ST. LAWRENCE CANALS.

1. For the year ending June 30th 1868.

—	Welland Canal.		St. Lawrence Canals.	
	Tons.	Tolls.	Tons.	Tolls.
		$ cts.		$ cts.
Vessels of all kinds	1,240,366	27,618 00	1,176,466	9,101 00
Produce of Forest	279,508	28,188 00	594,426	17,966 00
Farm Stock	222	54 00	2,508	265 00
Animal Produce	3,590	954 00	5,569	1,046 00
Vegetable Food	495,873	95,743 00	81,927	12,814 00
Agriculture Products	21,713	5,263 00	25,759	2,912 00
Manufactures	160,516	33,793 00	103,968	12,824 00
Merchandize	174,212	31,247 00	48,789	5,618 00
Passengers—No.	7,536	$679 00	47,346	$2,899 00

2. For the year ending June 30th 1869.

—	Welland Canal.		St. Lawrence Canals.	
	Tons.	Tolls.	Tons.	Tolls.
		$ cts.		$ cts.
Vessels of all kinds	1,267,451	28,430 00	1,174,650	8,978 00
Produce of Forest	258,978	26,723 00	590,385	16,936 00
Farm Stock	179	44 00	2,357	233 00
Animal Produce	4,013	1,081 00	5,025	960 00
Vegetable Food	503,869	98,071 00	86,067	12,562 00
Agricultural Products	24,419	6,109 00	19,678	2,133 00
Manufactures	202,764	41,954 00	103,146	13,405 00
Merchandize	200,528	34,236 00	53,710	5,760 00
Passengers—No	6,611	$648 00	46,754	$2,744 00

NUMBER, NATIONALITY, AND TONNAGE OF VESSELS.

1. For the year ending June 30th, 1868.

Canadian Vessels and Steamers.	Welland Canal.		St. Lawrence Canals.	
	No.	Tons.	No.	Tons.
From Canadian to Canadian Ports	1,882	294,254	11,413	1,093,363
" " American Ports	638	123,961	659	57,485
" American to Canadian Ports	700	128,989	78	7,350
" " to American Ports	5	993	3	390
Totals	3,225	548,197	12,153	1,158,649
American Shipping.				
From Canadian to Canadian Ports	20	2,029		
" " American Ports	394	37,730	143	9,354
" American to Canadian Ports	375	36,055	54	3,123
" " to American Ports	2,143	16,355	159	5,340
Totals	2,932	692,169	356	17,817

	$ cts.
Amount of Tolls collected on Canadian Vessels on Welland Canal	10,664 03
" " " St. Lawrence Canals	9,018 38
" " American Welland Canal	16,954 24
" " " St. Lawrence Canals	83 57
Total Tolls for 1867-'68	36,720 22

2. For the year ending June 30th, 1869.

Canadian Shipping.	Welland Canal.		St. Lawrence Canals.	
	No.	Tons.	No.	Tons.
From Canadian to Canadian Ports	1,888	269,413	10,096	938,790
" " American Ports	673	135,100	1,328	122,166
" American to Canadian Ports	707	140,878	572	48,182
Totals	3,278	548,019	11,998	1,159,179
American Shipping.				
From Canadian to Canadian Ports	12	1,503	5	103
" " American Ports	307	31,022	124	7,239
" American to Canadian Ports	356	51,966	75	4,656
" " American Ports	2,116	634,941	146	3,469
Totals	2,791	719,432	350	15,471

	$ cts.
Amount of Tolls on Canadian Vessels on Welland Canal	11,044 02
" " " St. Lawrence Canals	8,888 34
" " American Vessels on Welland Canal	17,386 90
" " " St. Lawrence Canals	90 17
Total Tolls 1868-'69	37,409 43

Number, Nationality, and Tonnage of Vessels.—*Continued.*

3. For year ending June 30th, 1870.

Canadian Vessels and Steamers, Welland Canal.

	No.	Tons.
Steam Vessels	1,199	104,100
Sailing Vessels	2,657	487,474
Total No.	3,856	591,574

American Shipping.

	No.	Tons.
Steam Vessels	878	2[illegible]1,243
Sailing Vessels	2,006	49[illegible],300
Total No.	2,884	765,543
Total tonnage of vessels	.....	1,357,117

Amount of tolls on Canadian vessels in Welland	$11,828 33
" " American " "	18,937 10
Quantity of Canadian wheat	38,111 tons.
" American "	394,051 "
" " corn and meal	84,252 "
" Canadian flour	16,555 "
" American "	26,186 "
" " coal	98,109 "

Gross Tonnage and Revenue of Canals in 1869 compared with the same in 1849.

Years.	Welland.		St. Lawrence.		Chambly.		Burlington Bay.		St. Ann's Lock—1850.		Ottawa and Rideau.	
	Total tonnage of vessels and property up and down.	Gross Revenue.	Total Tonnage.	Gross Revenue.	Total Tonnage.	Gross Revenue.	Total Tonnage.	Gross Revenue.	Total Tonnage.	Gross Revenue.	Total Tonnage.	Gross Revenue.
		$		$		$		$		$		$
1849	820,006	138,967	657,793	68,793	205,858	7,429	.....	.....	184,132	3,669	795,726	10,004
1869	2,462,201	243,559	2,635,018	80,099	830,436	33,246	373,383	8,460	855,324	8,047	1,107,923	17,320

Net Revenue from Tolls. (Incidental expenses and repairs not deducted.)		Tonnage (up and down) of Vessels and Property by the Welland since 1860.		Tonnage (up and down) of Vessels and Property by the St. Lawrence since 1860.	
1860	$122,001 35	1860	2,182,593	1860	1,558,061
1861	42,247 27	1861	2,348,155	1861	1,896,377
1862	69,878 13	1862	2,495,774	1862	1,862,077
1863	150,499 46	1863	2,637,479	1863	1,938,235
1864	237,851 92	1864	2,479,559	1864	1,751,804
1865	182,175 64	1865	2,003,883	1865	1,676,680
1866	194,814 90	1866	2,067,532	1866	1,800,308
1867	188,658 62	1867	1,927,198	1867	2,020,215
1868	240,478 35	1868	2,492,188	1868	2,108,532
1869	229,114 14	1869	2,402,201	1869	2,035,018
1870	284,991 36	1870	2,631,935	1870	2,351,038

Gross Tolls since Confederation.

Canals.	1867-'68.	1868-'69.	1869-'70.
	$ cts.	$ cts.	$ cts.
Welland Canal	223,543 29	237,301 35	255,878 79
St. Lawrence Canals	65,450 29	63,714 63	198,167 35
Chambly and St. Ours	35,296 28	33,246 20	41,791 04
Burlington Bay	14,862 75	8,004 54	8,459 79
St. Ann's Lock	8,041 12	8,034 14	10,049 51
Ottawa and Rideau	18,582 59	17,255 96	20,585 77

Total cost of the Canals of Canada up to 30th June, 1867,—according to Statement of Department of Public Works, 1867.

Works.	Total Cost of Works, so far as can be ascertained, to 30th June, 1867.
St. Lawrence Navigation.	$ cts.
Lachine Canal	2,587,532 80
Beauharnois Canal	1,611,424 11
Cornwall Canal	1,933,152 69
Williamsburg Canals	1,320,655 54
General expenditure on St. Lawrence Canals, not apportioned	116,821 31
Welland Canal	7,638,239 83
Burlington Bay Canal	432,684 40
Lake St. Clair Flats—dredging of Channel	70,484 40
Lake St. Peter—dredging of Channel	1,164,235 08
Improvement of Lachine, Coteau, and Cedar Rapids	48,405 83
Total St. Lawrence Navigation	16,923,633 09
Montreal and Kingston Navigation via Ottawa.	
Ste. Anne Lock	134,456 51
Carillon Canal, Chute à Blondeau, Grenville	63,053 64
Rideau Canal	4,064,764 07
River Tay	17,764 05
Total Montreal and Kingston Navigation	4,280,038 27
Montreal and Lake Huron Navigation via Ottawa.	
Chats Canal—not completed	482,050 81
Richelieu and Lake Champlain Navigation.	
St. Ours Lock and Dam	121,537 65
Chambly Canal	634,711 76
Total Richelieu and Lake Champlain Navigation	956,249 41
Total River Trent Navigation	399,371 31
Desjardin's Canal, built before Union, and Government portion simply a loan	150,947 93
St. Peter's Canal.	
By N. S. Government up to 30th June, 1866 ..... $160,811 95	$302,037 53 N.S. Currency, or $294,956 41 Canada Currency
By Dominion " " " 1870 ..... 142,225 75	

Table shewing Cost of Construction, Repairs, and Maintenance, since 1867.

	1869–'70.			1868–'69.			1867–'68.		
	Construction.	Repairs.	Staff and Maintenance.	Construction.	Repairs.	Staff and Maintenance.	Construction.	Repairs.	Staff and Maintenance.
	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Lachine	.....	13,287 28	16,139 03	2,000 00	11,950 21	14,494 65	1,852 70	13,550 11	14,357 81
Beauharnois	587 50	6,384 81	10,167 57	51 00	6,498 57	9,776 99	7,008 00	5,599 15	10,087 21
Cornwall	17,780 05	7,145 42	10,368 16	10,692 04	3,859 14	10,347 90	2,786 00	4,700 17	10,318 48
Williamsburg	.....	6,546 16	5,619 81	.....	5,670 88	5,709 81	.....	8,758 56	5,799 97
Welland	24,173 72	65,009 19	38,340 45	43,486 36	50,773 06	39,060 61	12,099 84	38,832 96	38,399 05
Burlington	.....	47 27	.....	.....	577 94	.....	.....	57 32	
Ste. Anne Lock	.....	1,280 36	1,136 54	.....	1,873 51	1,062 96	.....	374 57	836 06
Carillon and Grenville	4,169 96	9,470 95	6,753 14	.....	10,157 42	6,599 38	19,817 22	8,769 72	6,157 45
Rideau	.....	19,469 33	20,072 37	.....	12,965 95	19,425 53	7,593 67	15,637 56	18,939 38
St. Ours Lock	.....	1,006 22	1,458 09	.....	1,399 18	1,755 15	.....	753 74	1,532 78
Chambly	.....	20,180 73	8,934 41	.....	13,120 97	8,460 94	.....	9,878 18	8,451 43
St. Peters	46,193 57	.....	.....	70,719 80	.....	.....	21,519 72		

Dimensions and Capacity of Canadian Canals in their present condition, 1871.

Canals.	Date of Opening.	Length.	Locks.	Lockage.	Size of Lock.	Size of Canal. Bottom.	Size of Canal. Top. W.	Can Pass. Size of Vessel.	Tonnage.
		Miles.		Feet.					
St. Lawrence Canals: Lachine	1848	8½	5	44¾	2 (200 × 45 × 16); 3 (200 × 45 × 9)	80	120	180 × 44 × 9	700
Beauharnois	1845	11¼	9	82½	200 × 45 × 9	80	120	180 × 44 × 9	700
Cornwall	1843	11½	7	46	200 × 55 × 9	100	150	120 × 44 × 9	700
Farran's Point	1847	0¾	1	4	200 × 45 × 9	50	90	180 × 44 × 9	700
Rapid Plat	1847	4	2	11½	200 × 45 × 9	50	90	180 × 44 × 9	700
Galops	1847	7⅝	3	15¾	200 × 45 × 9	50	90	180 × 44 × 9	700
Totals, St. Lawrence Canals	.....	43⅝	27	206½	200 × 45 × 9	50; 80; 100	90; 120; 150	180 × 44 × 9	700
Welland Canal, on the Main Line	1846	26½	27	346	1 (230 × 45 × 12); 24 (150 × 26½ × 10½); 1 (200 × 45 × 10½); 1 (200 × 45 × 12)	70; 58; 50; 26	110; 58rock; 90; 66	142 × 26½ × 10½	500
St. Ours Lock	1849	0½	1	5	200 × 45 × 7	.....	.....	180 × 44 × 7	600
Chambly Canal	1843	12	9	74	118 × 23 × 7	30	60	110 × 23 × 6½	230
Rideau Canal	1832	126¼	47	446¼	134 × 33 × 5	54; 60	80	120 × 31½ × 4½	250
Ottawa Canals: St. Ann's Lock	1843	0½	1	3	190 × 45 × 0⅙	.....	.....	170 × 44 × 6	600
Carillon Canal	1834	2⅛	3	34¾	126½ × 32¼ × 6	30	50	117 × 32 × 5½	300
Chute a Blondeau	1834	0½	1	3¾	130⅚ × 32⅚ × 6	30	30	120 × 32 × 5½	300
Grenville Canal	1834	5¾	7	45¾	4 (128 × 31⅚ × 6); 3 (107 × 19 × 6)	20; 30	25; 60	95 × 18½ × 5	100
St. Peter's Canal, Cape Breton, Bras d'Or Lake	1869	0½	Tidal. 1	9	122 × 26 × 13	26	.....	114 × 25¾ × 13	500
American Canals.									
Erie Canal, enlarged	1862	352	72	655	110 × 18 × 7	56	70	102 × 17½ × 6½	210
Champlain Canal	1822	66	20	180	97 × 14 × 4	35	50	89 × 13½ × 3½	70
Sault Ste. Marie Canal	.....	1⅛	2	19	350 × 70 × 12	.....	.....	330 × 69 × 12	2,000

SAMUEL KEEFER, Secretary,
Canal Commission.

OTTAWA, 24th February, 1871.

APPENDIX J.

TRADE OF LOWER PROVINCES.

1. Imports and Exports of Ports on the Gulf of St. Lawrence.
2. " " " Bay of Fundy.
3. The Fisheries.
4. Trade of Prince Edward Island.
5. Coal Trade of Nova Scotia, &c.

Trade of the Ports on the Gulf of St. Lawrence.

Ports.	Exports.	Imports.
New Brunswick.	$	$
Bathurst	65,771	24,032
Bay Verte	4,050	583
Buctouche	24,393	1,210
Caraquette	11,593	6,862
Chatham	294,069	201,774
Dalhousie	143,407	43,133
Moncton	1,541	38,808
Newcastle	196,940	95,479
Richibucto	164,342	27,540
Sackville	12,971	66,577
Shediac	141,494	241,806
Shippegan	41,816	20,952
Nova Scotia.		
Amherst	14,651	87,259
Tatamagouche	7,137	2,610
Wallace	10,896	4,700
Pictou	309,761	348,677
Pugwash	70,603	3,652

Trade of the Bay of Fundy Ports, and on Western and South Western coast of Nova Scotia.

Ports.	Exports.	Imports.
New Brunswick.	$	$
Campo Bello	11,593	6,862
Dorchester	2,515	11,793
Hilsborough	132,420	3,497
North Joggins	10,311	5,970
St. Andrews	41,170	75,597
St. John	3,853,282	5,247,371
St. Stephens	96,311	232,533
Nova Scotia.		
Annapolis	62,409	112,274
Barrington	18,938	18,224
Bear River	46,319	18,604
Beliviau's Cove	6,110	12,251
Bridgetown	12,735	6,882
Cheverie	12,149	5,952
Clementsport	12,182	8,035
Cornwallis	40,835	58,157
Digby	9,202	33,660
Five Islands	17,958	14,372
Hantsport	23,715	16,111
Horton	4,664	74,716
Joggins	19,805	9,027
Londonderry	46,969	25,596
Maitland	3,480	26,601
Parrsborough	9,411	11,555
Port la Tour	20,634	15,261
Ragged Islands	415	7,762
Shelburne	19,075	24,438
Tusket	10,682	18,637
Truro	544	11,535
Thorne's Cove	3,884	2,246
Walton	7,723	4,398
Westport	10,099	1,519
Weymouth	72,643	36,791
Wilmot	4,912	12,940
Windsor	75,616	101,995
Yarmouth	255,157	345,547

Total Value of Exports and Imports of Nova Scotia and New Brunswick, 1870.

—	Exports.	Imports.	Duty.
	$	$	$ cts.
Nova Scotia	5,803,417	8,940,800	1,162,592 51
New Brunswick	5,303,206	6,854,447	1,017,777 82
Total	11,106,623	15,795,247	2,180,370 33
Prince Edward Island, 1869	£365,191 stg.	£364,232 17 5	

Trade of Prince Edward Island in 1869.

—	Imports.			Exports.		
	£	s.	d.	£	s.	d.
Total values of trade	364,234	17	4	284,227	8	7
With Ontario and Quebec	32,946	3	9	1,681	11	4
With Nova Scotia	68,215	18	5	82,013	10	3
With New Brunswick	35,124	12	8	30,100	13	5
Total	136,286	14	10	113,795	15	0
With Newfoundland	4,345	12	8	13,933	12	8
With United States	55,826	7	6	48,205	16	6
With Great Britain	165,099	10	0	102,896	12	8

Value of the Fisheries of the Maritime Provinces.

—	Exports for year ending June 30, 1869.	Probable Annual Value.
	$	$
New Brunswick	362,840	900,000
Nova Scotia	2,235,519	4,000,000
Prince Edward Island (about)	10,000	200,000
Newfoundland, for 1869 (about)	6,800,000	7,000,000
	9,408,268	12,100,000

Magdalen Island.

Exports coastwise	$45,47
Foreign exports	25,88
Total	$71,35

COAL TRADE OF CANADA.

Quantity raised in Nova Scotia during Five Years.

——	Year ending 30th Sept., 1865.	Year ending 30th Sept., 1866.	Nine Months ending June 30th, 1867.	Fiscal Year 1867–'68.	Fiscal Year 1868–'69.
	Tons.	Tons.	Tons.	Tons.	Tons.
Quantity raised...	712,575	684,766	542,127	462,188	571,656

Pictou Coal Trade.

Years.	Total quantity raised.	Exported to U. S.
	Tons.	Tons.
1860	157,004	142,000
1863	198,313	160,000
1865	188,779	165,526
1866	205,729	171,000
1867	132,000	110,000
1868	144,851	92,000
1869	198,000	101,000

Coal Imported into Boston (from Pictou and Sydney chiefly) since 1860.

Years.	No. of Tons.	Prices in American Currency.	Average Prem. for Gold.
		$ cts. $ cts.	
1860	116,339	4 40 to 6 50	2
1861	109,281	4 00 to 6 00	
1862	138,751	4 50 to 8 00	
1963	152,204	6 00 to 8 00	37
1864	171,163	8 00 to 14 00	56
1865*	189,881	6 25 to 18 00	102
1866	142,042	7 50 to 9 50	41
1867	103,449	7 25 to 9 25	41
1868	96,428	7 50 to 9 00	40
1869	96,284	7 25 to 9 00	32

Distribution of Product of 1868 and 1869.

——	1869.		1868.	
	Tons Round.	Tons Slack.	Tons Round.	Tons Slack.
Raised	500,449½	77,441½	480,220	61,907¼
Sold for home consumption	98,727½	17,209¼	83,841½	13,804½
Exported to neighboring colonies	114,168½	14,929	92,551	10,729½
Exported to other countries	257,729½	9,031	271,129½	10,012
Total	470,625½	41,169¼	447,532	34,546
Total (Round and Slack)	462,188¼		578,062	

* During following years we see effect of repeal of Reciprocity Treaty and the consequent heavy duty on Canadian Coal.

APPENDIX K.

THE ST. LAWRENCE NAVIGATION.

Table of Distances.

From.	To.	Sections of Navigation.	STATUTE MILES. Intermediate.	Total to Straits of Belle-Isle.
Straits of Belle-Isle	Quebec	River and Gulf of St. Lawrence	826	826
Quebec	Three Rivers	River St. Lawrence to tide water	74	900
Three Rivers	Montreal	River St. Lawrence to tide water	86	986
Montreal	Lachine	Lachine Canal	8½	994½
Lachine	Beauharnois	Lake St. Louis	15½	1,009
Beauharnois	Ste. Cécile	Beauharnois Canal	11½	1,021
Ste. Cécile	Cornwall	Lake St. Francis	32⅜	1,053⅜
Cornwall	Dickinson's Landing	Cornwall Canal	11½	1,065½
Dickinson's Landing	Farran's Point	River St. Lawrence	5	1,070½
Farran's Point	Upper end of Croyle's Island	Farran's Point Canal	0½	1,071
Upper end of Croyle's Island	Williamsburg or Morrisburg	River St. Lawrence	10½	1,081½
Williamsburg	Rapide Plat	Rapide Plat Canal	4	1,085½
Rapide Plat	Point Iroquois Village	River St. Lawrence	4½	1,090
Point Iroquois Village	Upper end of Presqu' Isle	Point Iroquois Canal	3	1,093
Presqu' Isle	Point Cardinal, Edwardsburg	Junction Canal	7⅝—2⅝	1,095⅝
Point Cardinal	Head of Galops Rapids	Galops Canal	2	1,097⅝
Galops Rapids	Prescott	River St. Lawrence	7⅜	1,105
Prescott	Kingston	" "	59	1,164
Kingston	Port Dalhousie	Lake Ontario	160	1,334
Port Dalhousie	Port Colborne	Welland Canal	27	1,351
Port Colborne	Amherstburg	Lake Erie	220	1,571
Amherstburg	Windsor	Detroit River	18	1,589
Windsor	Foot of St. Mary's Island	Lake Ste. Claire	25	1,614
Lake Ste. Claire	Sarnia	Ste. Claire River	33	1,649
Sarnia	Foot of St. Joseph's Island	Lake Huron	270	1,910
Foot of St. Joseph's Island	" Sault Ste. Marie	St. Mary's River	47	1,964
Sault Ste. Marie	Head of " "	Sault Ste. Marie Canal	1	1,965
Head of Sault Ste. Marie	Pointe aux Pins	St. Mary's River	7	1,972
Pointe aux Pins	Fond du Lac	Lake Superior	410	2,382

Straits of Belle-Isle to Liverpool	2,234 statute miles	=	1,942 geographical miles.	
Quebec to Liverpool, *via* Belle-Isle and Malin Head, North of Ireland	3,060	"	2,661	"
Head of Lake Superior to Liverpool, *via* same route	4,618	"	4,016	"
Quebec to Liverpool, *via* Cape Race and Malin Head	3,242	"	2,819	"
Head of Lake Superior to Liverpool, *via* same route	4,800	"	4,174	"

Route from Quebec to Liverpool, *via* Belle-Isle, 182 statute miles (158 geographical miles) shorter than by Cape Race.

SUPPLEMENTARY RETURN.

CANAL COMMISSION OFFICE,
OTTAWA, March 3rd 1871.

SIR,—By request of George Laidlaw Esq., one of the Canal Commisioners, I have the honor to transmit a letter which he has prepared and addressed to the Secretary of State, setting forth his reasons for differing with the other Commissioners in the conclusions arrived at in their communication of the 23rd ult.

I have the honor to be, Sir,
Your obedient servant,
SAMUEL KE
Secr ry.

Hon. J. C. Aikins, Secretary of State.

OTTAWA, 28th February, 1871.

SIR,—I have the honor to inform you that having as one of the Canal Commissioners had under consideration the subjects involved by the instructions of the Commission of appointment to "institute and make a thorough enquiry as to the best "means of affording such access to the sea board as may be best calculated to attract a "large and yearly increasing share of the trade of the North Western portion of North "America through Canadian waters, as well as a thorough and comprehensive improve-"ment of the Canal system of our said Dominion on such a scale and of such a "character as would best tend to afford ample facilities for the expansion and due develop-"ment of its growing trade and commerce; and in such enquiry to consider the whole "subject, in all its bearings as well in a commercial, as in an engineering point of view, "with the object of obtaining such reliable information thereupon as may furnish the "necessary data on which to base a plan for the improvement of the Canal system of our "said Dominion, of a comprehensive character and such as will enable Canada to com-"pete successfully for the transit trade of the Great Western country and especially to "enquire into the Public Works and improvements hereinafter enumerated that is to say:—

"1st. The Welland Canal and the enlargement thereof.

"2nd. The St. Lawrence Canals and the enlargement thereof.

"3rd. The deepening of the Channels through the rapids of the St. Lawrence.

"4th. The deepening of the said river in its most shallow parts, between the cities "of Montreal and Quebec.

"5th. The Rideau Canal and its improvements and the development of trade "through the same.

"6th. The construction of a Canal at the Sault Ste. Marie between Lakes Superior "and Huron.

"7th. The construction of a Canal between the St. Lawrence at Caughnawaga and "Lake Champlain.

"8th. The improvements of the River Richelieu and Lake Champlain line of Canals.

"9th. The completion of the Montreal and Lake Huron system of Navigation via the "Ottawa and French Rivers,

"10th. The construction of the Georgian Bay Canal to connect the Georgian Bay with "Lake Ontario.

"11th. The construction of a canal, in the Township of Murray, through the neck of "land lying between Lake Ontario and the Bay of Quinte.

"12th. The construction of a Canal through the isthmus dividing the Bay of Fundy "from the Gulf of St. Lawrence, at Bay Verte.

"And, also, to enquire as to which of the said several works and improvements, "hereinbefore mentioned and referred to, ought, in the judgment of our said Commissioners, "to be made and constructed for the purpose aforesaid; and in what order they respectively "should be proceeded with, and what dimensions and depths they should be constructed; "and the probable cost of the construction of such several works and improvements "respectively: and generally to enquire into, and ascertain and report fully on the whole "subject, in all its bearings, making such recommendations as may appear to you, our "said Commissioners hereby appointed, and to such other person and persons as we may "think fit, by order of our Governor General in Council, to add to this our Royal "Commission, to be likely to contribute to the better accomplishment of the said object "so in view." Having carefully studied the duty imposed by the foregoing instructions to consider "the whole subject in all its bearings," I regret, with the same facts before me, being unable to arrive at the same conclusions with my colleagues or to sign the comprehensive letter or report, which has been addressed to yourself as Secretary of State. With the views of the Commissioners upon the Georgian Bay, Murray, and the Caughnawaga Canals, and with many of the aims and aspirations expressed in the report I most cordially concur, while I differ in part and degree only as to the ways and means by which such aims and aspirations can be the soonest and most judiciously accomplished. In explaining my convictions on the important questions referred to, it is unnecessary for me to recapitulate facts and statistics which are the results of the labors of the Commissioners, and embodied in *their* report.

I will now proceed to state my reasons for declining to sign the recommendations of my colleagues, and treat of the several works and their relations to the trade of the Dominion and of the United States.

Sault Ste. Marie Canal.

It is recommended to spend the sum of $550,000 to construct the Sault Ste. Marie Canal, an expenditure for which I can see no commercial reason, nor occasion to doubt the estimated cost of the work. A short canal, with the largest locks in America, exists on the American side of the river, which is open to Canadian and United States vessels on equal terms, as in the case of the Welland Canal. There are only two Canadian steamers that plied last season on Lake Superior; one or two more may do so this season, but of the whole number I am informed only one could pass through the proposed new canal, they being paddle-wheeled steamers.

It appears, therefore, that the sole reason why such a canal should be built is predicated upon the hypothesis that in case of civil war in the North West Territories it would be a necessary avenue for the transport of men and material of war. Local Government having been instituted in these territories, I could not anticipate that a state of war should arise, nor could recommend the construction of a work which would be a lasting military menace to the now peaceable and loyal people of Manitoba, as yet numbering only 10,000 souls. No return in tolls could be expected from this work. The money would be wasted.

The common use of the Sault Ste. Marie and Welland Canals by Canadians and citizens of the United States, and the unrestricted flow of commerce might prove a stronger bond for peace than the construction of a military canal, which *one gun* could command, or *one man* destroy in a night.

There can be no more objection to the use of the American Sault Ste. Marie Canal by Canadians than to the use of the Railway to Portland, or the Railway from Dacota through Minnesota. The more effective way to provide an undisturbed access by water to the North West would be to expend the $550,000 proposed for the Sault Ste. Marie Canal upon the improvement of the navigation between James's Bay *via* the Albany River to Lake Winnipeg; and the judicious expenditure of so much money in creating a shallow but rather wide barge canal on that route might be made the occasion of

establishing at the best points several small colonies of emigrants from Northern European countries, who would thus lay the foundation of civilisation and military strength in that remote but alleged to be valuable region.

Welland Canal.

The report recommends the expenditure of $6,550,000 to enlarge the locks of the Welland Canal to 270 feet in length by 45 in width, and 12 feet depth, and to build a new canal between Thorold and Port Dalhousie. Of the amount specified, $300,000 is estimated as sufficient to secure a uniform depth of twelve feet of water in this canal with the present locks.

There appears to me no sufficient reason for recommending a larger lock than 250 × 45 × 12, with a corresponding increase where necessary in the size of the prism of the canal, and in the depths of the harbors of Ports Colborne and Dalhousie. By adopting this sufficient size the construction of a new canal from Thorold to Port Dalhou. might be avoided, as well as the adoption of only a few combination locks.

Probably $3,000,000 or *more* might be saved by this course. Referring to the objection that while the new canal would be constructed without delaying traffic, the enlargement of the present canal could only be proceeded with in winter or debar traffic in summer, I would respectfully submit that it would be a true economy if such were necessary, *as it is not*, to pay the canal freight on all produce destined for ports in Canada passing through the canal to the Welland or other Railways at its present rates for two or three years.

The cost of giving twelve feet of water in this canal by raising the locks and banks is only estimated at $300,000, a point to which I will call your attention in another view of the case after considering the St. Lawrence Canals.

While considering the necessary enlargement of the Welland Canal, which is the key for a full share of the Western business for the St. Lawrence route, it should not be forgotten that serious inroads are being made by railways on the traffic of all artificial water communications in this and other countries; especially is this true in relation to the steady and surprising decline of the shipments by the Erie Canal, and their proportional increase by rail, as well as the multiplication of railways to compete with the Erie Canal for the traffic it was specially built to control.

There are now in operation or building four lines of railways from the St. Clair to the Niagara Rivers, which must seriously diminish the receipts from the Welland Canal, and no doubt the further loss of trade by the enlargement of the Welland Canal and the increase of railways will be promptly met by abrogation of the tolls on the Erie Canal. Five-eighths of the produce carried through the Welland Canal is the product of the United States, and the people of Canada have no further interest in providing facilities at their cost for the cheaper transit of American produce, than the profits derivable from the carrying trade and its incidental banking and insuring advantages, while the fact cannot be overlooked that the producers of this country, while furnishing the funds for reducing the cost of shipment of rival supplies to the home market, *do not share* in any appreciable manner in the profits derivable from such trade, while I consider that it is unquestionably delusive to expect any appreciable direct return in tolls for the capital to be invested in the enlargement *of any* of the canals.

St. Lawrence Canals.

This system of canals with locks 200 × 45 × 9 feet, with the exception of the Sault Ste. Marie, is the most capacious on this continent, and with moderate improvements the proposed enlargement of the Welland Canal would afford facilities for the Western trade; which would at once place the St. Lawrence route to the ocean beyond the reach of competition.

It is not in the slightest degree probable that the enlargement of these canals to the extent proposed, with locks 270 × 45 × 12 feet, at a cost, including proposed dock basins

in Montreal and opening of the old mouth of the Lachine Canal, of $4,500,000 *would reduce the cost of freight from Kingston to Montreal one fraction* below the rates at which it can now be profitably carried.

There has been in the last few years a remarkably rapid increase in the proportion of Western cereals shipped to Great Britain, *via* Montreal, as compared with New York, and the still greater increase of such shipments *is not dependent* on an increase of the length and breadth of these locks, but primarily on the enlargement of the Welland Canal, and in a secondary degree on an increase of the depth of water in the St. Lawrence Locks and Canals, and overcoming other *more mischievous* objective circumstances, which can be more immediately, economically, and effectively obviated than by tearing down all the 200 feet locks on the St. Lawrence and building new ones, needlessly 270 feet long.

The fact proven by the evidence adduced before the Commission that the average freight from Chicago to Montreal is between 7 and 8 per cent less than to New York is conclusive that it is *not* between Chicago and Montreal that the main difficulties exist but, *in*, and *between* Montreal and Liverpool and other European ports.

I will enumerate what I conceive to to be those difficulties altogether. 1st. New York having an open harbour all the year, and by reason of its population, banking power and distributive facilities for supplying other important American centres of business, being much larger market than Montreal, there is attracted to it large quantities of produce, which if destined for Europe at the time of shipment from Chicago, could be carried much cheaper *via* Montreal.

2nd. The forwarders of Kingston and Montreal having formed a combination equivalent to being one firm to secure very profitable returns from their business, the excess of their rates, say two cents, becomes a premium in favor of shipment to New York.

3rd. The want of proper warehousing facilities such as exist at ports on the Lakes, adds to the cost of transhipment and warehousing, &c., in Montreal, three to four cents; as it so happens that holders have either to ship at forced rates of freight or store their property at heavy expense, which, added to the excess of barge rates from Kingston, makes a total of five or six cents per bushel in favor of the Erie Canal routes.

4th. While one concern, practically speaking, controls the rates from Kingston to Montreal, then again another concern absolutely controls the steam, and to a great extent the sail freight from Montreal to England; so that if the freight from Chicago to Kingston were reduced, it does not follow that the volume of exports *via* the St. Lawrence would increase at so great a ratio as expected, as the total rate of freight from Chicago to Liverpool might still remain the same and not be reduced below the rates from Chicago *via* New York to Liverpool. It is true the field is open for competition between Kingston and Montreal, and between Montreal and Great Britain, but every importer and exporter in Canada knows that under all the circumstances successful competition might be debarred from taking good root for another decade.

5th. The imperfect lighting and the want of fog bells on the lower St. Lawrence, occasion extremely high rates of insurance, which, taken together with rates of ocean freight and banking and exchange obtainable for special reasons in Montreal, go far to neutralise the lower rates of freight as compared vith the New York route from Chicago to Montreal, and the shorter and greatly smoother voyage thence to Liverpool.

River St. Lawrence, below Montreal.

The report proposes the expenditure of $800,000 to obtain an uniform depth of 22 feet in the river below Montreal. Seeing that the Clyde gives only 20 feet to the Broomelaw at Glasgow, and that in Montreal has grown up in one lifetime a firm with a merchant fleet of steam and sail vessels which exceeds, I believe, by 25,000 tons the tonnage of any other company in the world, and which, although a just cause for great pride to every Canadian, shows it cannot be urgently necessary to invest $800,000, *and*

probably a great deal more, in the bottom of the St. Lawrence, when there are so many works of importance to be executed which would benefit, *as this would not*, the people who bear the cost.

Having a full appreciation of the importance of the aims and results desired by the Commissioners who signed the report, and of the desires of the country, and having brought to bear on the consideration of the improvement of the navigation east of Kingston, and the removal of obstructions and the creation of facilities to make of Montreal a great mart, and the most successful competitor with New York as an *entrepot* and distributing point for the commerce of the lake and tributary regions, and being fully conscious of the desirability of improving and extending the pathways of commerce between the various Provinces of the Dominion to the full extent of their present and near future interests, I am led to the conviction that the most rational manner of achieving these objects with a due regard to the proportion of responsibilities and advantages that will accrue to the people of the Dominion who have to bear the vast cost of these projected improvements, while the people of the United States, in the aforesaid regions, will reap nearly the whole direct profit from them; and promising that these canals are large enough for all the agricultural and manufacturing interests of the people of the Dominion; that in twelve months the Grand Trunk Railway has carried as much produce as was water-borne east of Kingston in seven months, or a canalling season; that seven-eighths of the flour exported from Ontario to the Maritime Provinces has been, and undoubtedly will be, carried on the Grand Trunk Railway; and that when the Intercolonial is finished the region on the west coast of the Gulf of St. Lawrence will undoubtedly be supplied by its agency; and therefore there being no valid reason to suppose that enough of downward laden vessels would be obtainable to return with the supplies of coal required in Ontario, or that a profitable market could be had for Nova Scotia coal, west of Montreal, the excess of length of voyage from Nova Scotia to Toronto, acting as a protection to the import of Pennsylvania coal, even when subject to a duty of 50 cents per ton, as the duty levied against the lumber of Ontario is neutralised by the length of the voyage for Michigan lumber to ports in the Eastern States, and as the whole outlay proposed for canal enlargement on the St. Lawrence route is a *premium* to be paid by Canada for a *larger* share of the Western trade, it is highly expedient that the Government should proceed *tentatively*, accepting experience of results as the surest and safest guide to success.

I beg most respectfully to differ from the recommendation of my colleagues, although fully appreciating the splendid engineering idea of having an uniform system of canals from Lake Superior to the ocean, with locks 270 × 45 × 12 feet, to submit the following statements and recommendations in lieu thereof for your consideration.

1st. That the Welland Canal be immediately increased in depth by adding to the height of the embankments and locks what is necessary to give 12 feet of water, which is estimated by Mr. Gzowski, Commissioner, and Mr. Keefer, Secretary, at $300,000.

2nd. That the tolls be abrogated this year on all freight not destined to ports in the United States.

3rd. That the expenditure, before mentioned, of $3,000,000 to enlarge the locks and canal be delayed, pending rearrangement of the navigation laws and commercial intercourse on such basis as will be equitable and mutually advantageous to the people of Canada and the United States, and that the navigation of Lake Michigan without reporting at the Straits of Mackinac, and the navigation of the canals in the States be conceded on the same terms to Her Majesty's subjects as the Americans enjoy the navigation of the canals of the Dominion.

4th. That the subsidy for the tug service between Kingston and Montreal be increased this year to the extent necessary, as an equivalent for the reduction of 30 per cent. on the tariff for towing as fixed at present by Government.

5th. That no increase in the *length* and *breadth* of the present locks of the St. Lawrence Canals is in the slightest degree necessary, *or should be undertaken*, but that they should be built higher or underset, and the banks of the canal heightened, and the

obstructions, if any, in the river removed, so that there would be available 12 feet of water from Kingston to Montreal, which may be estimated to cost considerably less than $2,000,000.

6th. I concur in the report of the Commissioners as to the improvements necessary at the lower end of the Lachine Canal, excepting the proposition to build docks or basins on the Government land contiguous thereto, but in lieu thereof it would prove more effective for the purposes desired to give the whole of said land, or a proportion thereof, by way of bonus to the Harbor Trust in Montreal, or failing their acceptance, to a chartered company, who would erect, at a point accessible by the Grand Trunk Railway and Ocean Steamers, an iron or fire-proof elevator capable of containing 2,000,000 bushels of grain, subject to a tariff to be fixed by the Harbor Commissioners.

7th. That no expenditure of $800,000 should take place in the river below Montreal, but that a reasonable amount should be expended in building lighthouses and placing fog bells where necessary, for the better protection of shipping.

Bay Verte Canal.

It is apparent that the construction of the proposed Bay Verte Canal would greatly facilitate the local shipping interests of the people on the shores of the Bay of Fundy, and on the northern shores of Nova Scotia and New Brunswick, while it is equally evident that the fishing interests of the people in the Eastern States, and the agricultural and shipping interests of the people of Prince Edward's Island, would be far more benefitted by the use of such canal than those at whose cost it may be constructed.

It is premature, to a certain extent, to offer an opinion upon this work, inasmuch as the Chief Engineer to the Department of Public Works, I believe, has stated that the successful building and working of a canal at that place is *impracticable*.

Although the results of the present survey may prove the practicability of the proposed canal, it would not be expedient to construct it at a cost of $3,250,000, unless a differential tariff was charged on the shipping of Prince Edward's Island, or it joined the Confederation, and in the event of no general arrangement being made for the common use of Canadian and American canals on the same terms for Her Majesty's subjects and the citizens of the United States, a differential tariff on the shipping of the United States. If built it would be the best route for a line of steamers from the St. Lawrence to the West Indies and Brazil, an enterprise of far more immediate consequence to general Dominion interests than the Bay Verte Canal, as any rate of tolls that would yield any appreciable return for the $3,500,000 invested, would drive a great part of the shipping through the Gut of Canso.

The Lower Ottawa Canals,

Or the canals and locks on the Lower Ottawa, between the City of Ottawa and the St. Lawrence, are very important, as affording a necessary outlet for the great lumber traffic of the Ottawa region. Referring to the size of locks, statistics, &c., given in the report of the Commissioners, I can see no good commercial reason for enlarging these canals without a corresponding enlargement of the United States, Champlain, or Whitehall Canal is secured, as that canal having the smallest locks on the system of canals leading from Ottawa to the Hudson River at Troy, *governs the size* of all the barges that can be used for through traffic without transhipment. Under these circumstances the enlargement of locks 9, 10, 11, on the Grenville Canal to 126½ × 30 feet is all that is reasonable or necessary immediately, which could be effected for $60,000 in round numbers.

The Upper Ottawa Canal.

The construction of the proposed Ottawa and French River Canal, at a cost necessarily exceeding the cost of all other canal improvements proposed in the Dominion,

is certainly not called for in the interests of the Dominion, and it would be a rival to the Welland and St. Lawrence Canals. The local and general interests to be promoted by this work would be much better and more immediately served by a plan hereinafter suggested, as logs can be much more economically floated on the river to Ottawa than the lumber could be freighted from points on the Upper Ottawa, in barges through canals.

River Richelieu and Lake Champlain Canals.

The improvement of the Chambly, River Richelieu, and Lake Champlain line of canals would be of no *commercial advantage without a simultaneous and corresponding* enlargement of the Champlain or Whitehall Canals in the United States. There is no perceptible foundation for hope that an increase of tolls or an increase of business would result from the expenditure of $1,500,000, as recommended by the other Commissioners on these canals. A slight reduction on the cost of carrying lumber might be obtained by the simultaneous enlargement of the canals in the States and Canada, including the Lower Ottawa, on this line of navigation, but even that is doubtful.

The expenditure recommended by the majority of the Commissioners, as compared with the propositions I consider it my duty to submit, are as follows :—

By Commissioners.

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Sault Ste. Marie Canal	550,000
Welland Canal	6,550,000
Lower Ottawa	1,800,000
Chambly Canal	1,500,000
Deepening St. Lawrence below Montreal	800,000
Bay Verte Canal	3,250,000
St. Lawrence Canals	4,500,000
Upper St. Lawrence	220,000
Total	$19,170,000

By the Undersigned Commissioner.

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Sault Ste. Marie Canal	
Welland Canal	3,000,000
Lower Ottawa	60,000
Chambly Canal	
Deepening St. Lawrence, below Montreal	
Bay Verte Canal	
St Lawrence Canals, including improvements in Upper St. Lawrence River	2,000,000
Total	5,060,000

There is an element of great strength wanting in Montreal and Quebec to enable those cities more favorably to compete with New York or other United States Atlantic ports for the trade of the lake regions, and that is the want of regular steam communication between the cities on the St. Lawrence and the West Indies and Brazil, and the Spanish, French, and Italian ports on the Mediterranean. A vast amount of business and capital would be attracted to Montreal and Quebec if they were made *entrepots* for the receipt and distribution of West India produce and Mediteranean goods. Therefore rather than submerge $800,000, *probably much more*, in the Lower St. Lawrence, I would suggest that a weekly or fortnightly line of moderate sized screw steamers be subsidised to run to the West Indies, and a monthly line to ports in the

aforementioned countries on the Mediteranean, these lines of steamers to be run to Halifax in winter. Neither have I any hesitation in stating my conviction that it would be much more advantageous (although perhaps not necessary for the attainment of the first two objects hereinafter specified) to insure the accomplishment of the means "best calcu-" lated to attract a large and yearly increasing share of the trade of the North Western " portion of North America," to give the $2,500,000, recommended by the Commissioners in excess of my estimate of the amount necessary to enlarge the St. Lawrence Canals, *to either of the three following objects*, viz. :—

1st. To establish a new line of Ocean Steamships to Liverpool.

2nd. To donate the amount to the Grand Trunk in the shape of steel rails and rolling stock, the efficiency of that road being, in my opinion, of far more important and immediate consequence to the welfare and prosperity of this generation of the people of the Dominion, than 270 feet locks as against 200 feet locks on the St. Lawrence Canals; or,

3rd. To give it as a bonus to secure the construction of a first class railway on the 4 ft. 8½ in. guage from Montreal to a good harbor near the mouth of the French River on Lake Huron, which railway would afford facilities for shipments from the Upper Lakes to Montreal and at Atlantic ports two weeks later than they could be made by the Erie or St. Lawrence Canals. At such a port on Lake Huron western products would accumulate late in the fall for shipment *via* the St. Lawrence and Portland, while the construction of said railway and the settlement of the country that would result therefrom, and the use of the railway all the year (as against seven months use of canal), would result in a vast increase of the population, trade, and resources of the Dominion.

I suggest the first two of these propositions only by way of illustration. The last is a necessity for the better accomplishment of the ends desired, and would form the first section of the proposed Dominion Pacific Railway.

Adding to the $5,060,000 recommended to be invested in canal enlargement the sum of $800,000 as the principal necessary to secure the establishment of the aforementioned lines of steamers to the West Indies and the Mediteranean, and $2,500,000 as requisite to secure the construction of the aforesaid railway from Montreal to Lake Huron at or near the *debouchement* of the French River, my estimate of expenditure only amounts to $8,300,000, as against $19,170,000 recommended by the other Commissioners, while the expenditure proposed as aforesaid is likely to achieve far better, greater, more immediate and durable results for the permanent prosperity of the Dominion, than will be attained by the expenditure of the vast sum proposed to be sunk in canal works of doubtful utility, at a time when the supremacy of railways over canals is being fully and uncontestibly established, and when the experience and better management of railways now had is proving them, where judiciously laid and economically constructed, reasonably profitable investments; while notwithstanding the immense recent increase of population and the volume of commerce, there is a *remarkable decline* in the receipts from all artificial water communication. The commercial question having been thoroughly exhausted by the queries and replies, added as an appendix to the report of the Commissioners, it appears to me that the reports might be accepted as final and the Commission dissolved; the unaccomplished business of the Commissioners being altogether matter of calculation for professional engineers, who would incur very grave responsibilities, in selecting new routes for canals, as from Thorold to Port Dalhousie or Niagara, and from Bay Verte to Cumberland Basin.

From the very grave errors, wholly attributable to engineers, there have occurred in the selection of canal localities, such as building a needless canal at one place on the St. Lawrence, where I understand the construction of weirs and the improvement of the bed of the river at a small cost would have obviated the necessity for a canal; and at another place on the St. Lawrence where a canal was built in all probability on the wrong side of the river; and the expenditure of $373,191 upon building the Chats Canal on the Ottawa in the wrong place, so that it is cheaper to abandon that route and re-commence a new one, and that no information other than that afforded by blue books

could be obtained from the Chief Engineer to the Department of Public Works, I am led to believe that it would be highly inexpedient to proceed with the costly works recommended by either report under present, or engineering auspices of those wedded to particular theories.

I therefore, with diffidence, respectfully suggest that an honorary Board of Engineers, of which five to be a quorum, be appointed Consulting Engineers to the Government, payable only when employed. The distinction of being Consulting Engineers to the Government would be a worthy object of ambition, and would stimulate a rivalry for correct and economical engineering, which would be advantageous to the Government, and secure it, at a low cost, independent opinion from first class authorities upon the many and important questions which must arise in relation to the great public works under consideration, and to those which may in future be projected.

In sifting and analysing the evidence and facts which have led me to all the foregoing conclusions, I have been governed solely by the desire to consider and recommend that only, which at a rational outlay would best secure the aims for which the Commission was appointed, which I interpret to be a wise provision for the great expansion of trade and commerce reasonably anticipated to flow from the policy of Confederation, the opening up of the North West, and the settlement of industrious and prosperous communities in the now waste places of this great Dominion.

I have the honor to be, Sir,
Your obedient servant,
G. LAIDLAW.

Hon. J. C. AIKINS,
Secretary of State for Canada, Ottawa.