fact that from the direction of the waters of the St. Lawrence, whether by the Main Stream, or through subsidiary Channels among the Islands, and the inclination not Southward but Northward at the head of the Lake, and after it has passed the marshes extending below Flat Island, that the greater volume of water would seek an outlet by the Old Channel, and the same cause does operate in favor of the velocity, of current, in the Old Channel throughout, until when, from the influence of currents from the subsidiary Channels entering the Lake, North of the Main Channel, a Southern inclination from the Lower Light obtains to the junction of the two Channels opposite the River Machiche.

TABLE No. 2.

Exhibits the comparative velocities of the currents in the Old and New Channels ¾ mile, ¾ hour.

OLD CHANNEL.		NEW CHANNEL.	
Below the Upper Buoy, 1:58 ¾ mile, ¾ hour.		At the head of New Cut	1:45
Half way between the Lower Light & Buoy,	0:67	Lower end	0:59
At Lower Buoy, ...	0:81	One mile above Lower end of Cut... ...	0:54

The velocity of the current at end of Stone Island in the Main Channel, 1:58 per mile, per hour.

We also agree with Captain Bayfield, that it would be unsafe to leave the New Channel open, in the event of improving the Old one, while the same course of reasoning, will, in our opinion, justly apply to prove the necessity of stopping the Old Channel, should the improvement of the New Channel be decided upon.

In addition to the foregoing considerations, it is proper, before entering upon the estimates of the costs, to announce this principle of concentration of water into our Channel, as the indispensable guide to a conclusion, upon which, we can ourselves rely, and by which, the objects as stated in our instructions, viz.: "The best means of effectually opening a Channel of 16 feet depth in "low water, through Lake St. Peter, as well as "the cost of the same, and also the cost of opening a Channel of 13, 14 or 15 feet," can be effectualy and satisfactorily secured.

In fact no one can doubt that much water now flows through both Channels, diminishing the supply in each separately, and as a consequence, if either were closed, the current through, and depth of the other, would be proportionably increased.

In connection then with cost of excavations to deepen either Channel within prescribed limits, we must look to the practicability and cost of effecting such a concentration.

For instance, if we would effectually improve the New Channel, we must direct the waters flowing through the subsidiary Channels into the main Channel of the St. Lawrence, and by the construction of dams and jetties, direct the accumulated body of water fairly into it, and also close the Old Channel.

If, on the other hand, the improvement of the Old Channel is to be effected, the same principle of concentration applies; we have but to allow the waters of subsidiary Channels to flow on naturally, for they chiefly come down in the desired direction, and to complete the work of diverting the whole of the main current of the St. Lawrence to throw a groin in a north easterly direction from the Flats of Monk Island, and thence by a dam across the New Channel, to the Bar, North of it.

With these considerations we have the means of instituting a comparison of the two Channels —or, rather, to determine in what direction it may be advisable in our opinion to make a Channel, answering the conditions specified in our instructions; for, independent of all pre-conceived opinions and local prejudices, we regard either Channel, or both, as but natural features to be availed of, so far only as they may not impair or conflict with the main object—*which object is the making of the best practicable Channel, through Lake St. Peter.* Unquestionably, one or the other, the Old, or the New Channel, indicates where the Channel in view should be, and to determine which shall be adopted, we proceed to compare them.

It will be shewn that at each and all of the several widths and depths assumed, the Old Channel has greatly the advantage in point of cost; nor does it appear unfavourably on comparison of the soundings or the velocity of currents.

The New Channel being straight throughout, is about three quarters of a mile shorter than the Old, which is termed *crooked* by comparison; but which, nevertheless is not, from all that we can learn, inconveniently so, as to cause us to attach as much weight to the objection, as obtained in the opinion of many others of high authority. In other words, we are satisfied that were it of the desired depth and width for *large vessels* throughout, the inconvenience alleged would not be experienced. Certainly a New Channel would not be sought as a remedy for obstructions caused by River drift, which may be removed as easily from the one as the other.

In viewing this case *de novo*, we cannot but observe that nature should be aided by artificial means, and not forced from her ordinary course, and with high respect for the opinions of others we must take her suggestions from the present, rather than a very remote past period of time.

Although the Main Channel through the Lake may have once been in the direction of the New cut, yet the interposition by nature herself of the extensive St. Francis bank has for an indefinite period effectually and permanently modified her own work, and produced the present Old Channel, which we think may now be justly called the Natural Channel, it being the deepest, most central through the Lake, and drawing without artificial assistance vastly the larger portion of all the waters of the St. Lawrence River.

Again, the risk of vessels coming in collision at the curves of the Old Channel, or within the New Channel, in consequence of its straightness, seems to us to have been unreasonably magnified.

No Channel can be safely navigated without care, and we know from daily experience that where accidents are most apprehended, they least often occur. It is clear also, that great width of Channel, with moderate crooks, is better, the depth being the same, than a straight and narrow one, as in the present instance. But any improved