

I noticed that the snow ice is more dangerous for jamming than the green ice.

MEANS OF PREVENTING INUNDATIONS.

I do not think there are any absolute means of preventing inundations, but some may be of great assistance. Those I will take the liberty to suggest will, I think, be advantageous to Montreal and its environs. I will mention three.

FIRST MEANS.—To prevent any one whatever from throwing earth into the river in places dangerous for ice. The earth excavated in the port should be thrown at the upper part of the small islands of Longueuil, and not on the west side, so as to lengthen the island and not to widen it.

The earth from the *battures* of Pointe-aux-Trembles should be dumped at the lower end of the first islands of Varennes.

The channel between Boucherville and Longue Pointe should also be examined next Spring, and if the ear has been dumped all along the shores as it is in certain parts, it should be removed without delay.

SECOND MEANS.—It would be necessary to deepen the river on the Boucherville side, i. e., at the two extremities of the islands of Longueuil and St. Joseph, near the properties of Messrs. Damase Charron and G. Deschambault. If a jam should occur on the *battures* of Longue Pointe or Pointe-aux-Trembles, the water would escape by the Boucherville river, which empties itself lower than the *battures* of Pointe-aux-Trembles.

Somebody has suggested excavating the *batture* of Longue Pointe. But let us suppose that the jam between the islands and Longue Pointe should be on the *battures* of Pointe-aux-Trembles, the Boucherville being obstructed as it is now, the water could not escape by Boucherville and the result would be the same for Montreal.

Let us remark that it would only be necessary to deepen the two extremities of the Boucherville river, because elsewhere the water is deep.

THIRD MEANS.—This would be principally in view of preventing inundations in the Autumn, those which cause the most damage. It would not cost much. It would consist in forming two or three small islands, a few hundred yards of earth dumped on the lower portion of Ile St. Joseph on the Boucherville side. The reason is this:

From the first frosts of December, the river carries ice towards Boucherville, but the mouth of the river in the islands of Longueuil being narrow, the ice immediately piles up, leaving the rest of the Boucherville river free from ice. When the ice ascends St. Mary's current, it shoves and breaks down this barrier, which then piles up on the islands of Longueuil and causes a jam on that side. See what happened last Autumn. This blockade caused the jam in the Boucherville river. All the residents of the islands feared the descent of the blockade. This is always a cause of trouble in the river.

The small islets I should wish to see formed would have the effect of stopping the first ice in the Autumn, and good ice would form on the whole Boucherville river from the lower portion of Ile St. Joseph to

St. Helen's Island, and this on the first frosts. This portion of the river would be strong enough to resist the shove, which would only be felt along the shore, as was shown by experience for several years, and it would be a surety that no jam would form from the north-east portion of St. Helen's Island to Varennes, on the Boucherville side. Let us suppose that a jam were to form on the *battures* of Longue Pointe or Pointe-aux-Trembles: a third of the river at least would be free and would give passage to the water.

I remember three years when the ice had shoved opposite my property in Ile St. Joseph and Boucherville village. The shove was considerable, and nevertheless it was only felt a little on the shores of the Boucherville river. When all the Boucherville river is covered with good ice as far as St. Helen's Island, nothing will be able to break this large extent of ice, and there will always be a free passage to allow the water to pass on the Boucherville side.

These islets would require to be small and low, so as not to stop the ice in the Spring. They should be built up on the rock mentioned above. The river is shallow at this place. It would be outside of the ship channel, and would in no wise obstruct navigation. The earth taken from the ship channel might be used for this purpose.

THE COST OF THESE WORKS.

The first means suggested would only cost the good will of the Harbour Engineer.

The third means would cost little. It would be sufficient to dump a few barge loads of earth on spots selected beforehand.

Lastly, the second means, the excavation of the entrance and outlet of the Boucherville river, would cost something, it is true, but I do not think it would cost more than the excavation of the *batture* of Longue Pointe.

RESUME.

I believe the inundations at Montreal and vicinity to be caused by the ice jamming on the *battures* of Longue Pointe and the Longueuil islands, and on the *battures* of Pointe-aux-Trembles and the first islands of Varennes. These jams are caused by the shoving of the ice, which descends the St. Mary's current, and which is the primary cause of all the inundations.

And that the means of preventing them would be:

1st. To prevent the obstruction of the bed of the river by the earth excavated by the dredges;

2nd. To deepen the two extremities of the Boucherville river;

3rd. To form two or three small islets between Ile St. Joseph and the lower portion of the parish of Boucherville.

In terminating I must say I am greatly interested in seeing the end of these inundations, as all my property is situated in the Boucherville islands.

If your committee wishes for more ample information from me, I will have great pleasure to be at your service.

I have the honor to be,

Your humble servant,

T. B. DE GROSBOS.

Boucherville, Feb. 15, 1884.

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