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rence lowers. The river, as far up as the Gabelle Rapids, is favourable for the descent of lumber either in cribs or by single sticks at all seasons of the year, with the exception of the Forges Rapids, where it might require to remove some boulders, to enable rafts to descend safely in low water; other portions of the river in this distance, also indicate boulders in the bottom; but these could, I imagine, be easily avoided by descending rafts.

The Gabelle Rapids offer the first difficulty to the descent of lumber in cribs. Rafts of sawn timber have been run down in safety, but the risk was considered so great as to induce the proprietors of the mills at the Grai Falls, to continue their plank slide to a Bay below them. Single sticks can be driven past these rapids without much difficulty; but a great improvement would be effected by constructing guide booms to direct the timber into the best channel between the Islands and reefs which form the rapids. From the head of Gabelle Rapids to the Grai Falls, the current is rapid but safe for the descent of lumber at all seasons. The Grai Falls is a serious obstacle to the descent of timber, even by single sticks; the river here is divided by numerous rocky Islands, between which the water finds its way in almost every imaginable direction, forming cross currents by which timber is driven upon the Islands and against the rocks, receiving great injury, and sometimes is totally destroyed by being broken or ground on the rocks by the action of the water; the height of the fall is about 22 feet, but varies according to the height of the water in the river.

From the head of the Grai Falls to the Shawenegan Falls, the river is deep and the water smooth, with the exception of Chevalier Point Rapids, where the current is rapid, and where timber sticks on shoals and rocks, but no improvement will be required, as little difficulty is fouud in driving timber past.

The Shawenegan Falls are situated about 21 miles above the mouth of the River St. Maurice, and presents the second serious difficulty to the descent of lumber, the fall is 135 feet in a distance of nine hundred feet, measuring across the neck of land, but the distance is much greater by following the course of the current round the point towards the South; the fall varies, being greater at low than at high water. The Falls are divided into three branches, the South branch joins the middle and main branch below the first fall, the two forming one grand pitch, and falling into a small rock-bound bowl beneath, creates violent whirlpools; where timber is retained and ground upon the rocks to its very great injury, and sometimes its total destruction. The current then takes a northerly direction, forming nearly a right angle with the main pitch, and descends with great velocity through a narrow rock-bound channel into the large basin below. The north branch separates from the main branch above the first fall—joins the main stream below all the Falls and about 600 feet above the lower basin. Lumber and saw-logs are sometimes broken in two by the violence with which they are precipitated against the rocks in descending these Falls. During high water a small portion of water finds its way across the point as shewn on the plan, but this becomes dry in low water. From the Shawenegan Falls to the Hêtres Rapids, the river is deep without much current.

The Hêtres Rapids are not considered to cause much detention or expense in descending timber, but the rapids are divided by numerous Islands. Great improvement could be effected by the construction of guide-booms which would lead timber into the best channel. From the Hêtre Rapids to the Grande Mere Falls, the water is deep and flows smoothly.

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The Grande Mere is divided into three falls by Islands which separate them immediately at the fall, which is almost perpendicular, and from thirty to forty feet high, we were not requested to make estimates of the cost of Sliding this Fall, as it is considered to offer less difficulty to the descent of lumber than either the Shawenegan or Grai Falls, this is certainly true, but any scale of improvement which may be adopted for this river, will be far from satisfactory unless the same will be extended to the Grande Mere Falls, the cost will be about two thousand six hundred and forty-seven pounds eight shillings and two pence; and I would strongly recommend that amount to be added to the estimate, if the grant should meet with the approbation of the Government.

On duly considering the natural obstruction which the River St. Maurice presents to the descent of lumber in cribs, by the height of the Falls to be slided, the number of Rapids which would require to be improved—the short distance of smooth water existing between the falls and rapids—the great outlay necessary for the construction of crib-slides down such high falls, and for the improvement of all the rapids, beyond what would be necessary for the construction of single-stick slides; and taking into consideration the high Tolls which must necessarily be imposed on lumber passing down to remunerate the Government for the outlay; and on the other hand, considering the natural facilities, strong current, clear shores, where timber seldom rests, the short distance, 27 miles, from the Grande Mere to the St. Lawrence, and the comparatively small outlay which would be necessary for the construction of single-stick slides, and the improvement of the rapids, Mr. Merrill and myself have come to the conclusion that we would consult the best interests of the Government, and also of those intending to make timber on this river, by recommending the construction of single-stick slides of six feet in the clear, and the construction of public Booms near the outlet of the St. Lawrence.

The Gentlemen of Three Rivers, interested in the improvements, directed our attention particularly to the Shawenegan and Grai Falls, being the greatest obstacles to the descent of lumber, and the places only which require improvement at present

The plans herewith transmitted shew the two localities, and the places where it was found most suitable for the construction of single-stick slides, with the necessary Piers, Booms, &c. In addition to that shewn on the plans, a Guide Boom will be required from the head of the Fall's Island, above the Shawenegan, to the south main-shore; and also the necessary public Booms at the outlet of the River. These are not shewn on the plans, but the costs are included in the following estimates, viz:—

SHAWENEGAN SLIDE, BOOMS, PIERS, DAMS, &c.

	Feet.	s.	d.	£	s	d.
Cribs, Dams, and Boom Timber ...	39,610 @	3	7½	1237	16	3
	Cubic yards.					
Filling do with stones, ...	3,172 @	3	6	555	2	0
	Cubic feet.					
Timber in Slide and Bulkhead	21,149 @	0	10	801	4	3
	Cubic yards.					
Rock Excavation ...	500 @	5	0	125	0	0
	lbs.					
Bolts	1,773 @	0	4½	33	4	10½
Chains	28,385 @	0	4	473	1	8
Two Anchors ...	@ £10			20	0	0
				£3325	8	11½