

along the upper half-mile of the channel. is beginning to have effect. In 1888 there was 25 per cent. of the water in the river entering the top of the channel, there is now 35 per cent. All this is very favourable to the continuance and increase of the advantages derived from this work.

Some snags have lately lodged in the river just at the entrance to the channel; these, if allowed to remain, will have the effect of shoaling the entrance to the channel. There are also a few about five chains down the channel. It is desirable that the entrance and upper portion immediately adjacent thereto be kept free from impediments. These snags should accordingly, I think, be removed. The cost will be—

Explosives, 100lb. dynamite, caps and fuse ...	...	...	£	s.	d.
Labour, fifteen days at 10s. ...	...	...	8	0	0
			7	10	0
Total ...	...	...	£15	10	0

A considerable increase to the quantity of water flowing down the channel could be effected doubtless by dredging it. There is a suitable dredge available, viz., the "Hapuka," which has been retained here in case this was decided on. The cost of this, taking the smallest amount of excavation which would be likely to be of any use, would be as under :—

Description.	Unit of Measure.	Quantity.	Rate.	Amount.
Dredging ...	Tons	21,780	s. d. 1 6	£ 1,631
Conveyance of plant to site ...	Days	150	10 0	75
Contingencies ...	...	...	...	270
Total ...	...	...	...	1,976

Besides this there is the question of dredging, between the foot of the channel and the foot of snag falls, as recommended by Sir John Coode to the consideration of local engineers, with a view of increasing the volume of the tidal compartment. The cost of this would be as under (say, £3,000) :—

Description.	Unit of Measure.	Quantity.	Rate.	Amount.
Dredging ...	Tons	35,940	s. d. 1 6	£ 2,695
Conveyance of plant to site ...	Days	60	10 0	30
Contingencies ...	...	...	...	272
Total ...	...	...	...	2,997

The expenditure required in either or both of these cases is considerable. I hardly think the present necessity of the case warrants the expenditure of such amounts, and are not prepared at present to recommend the Board to expend money in these directions.

Stop-bank.

Some of the crib-work at the stop-bank erected in 1886, which has stood very well and has served its purpose of conserving the foreshore to date, is now showing signs of weakness. The river has scoured away some of the stone-filling and apron, leaving the piles exposed. The piles, which are only 8ft. long, are not a sufficient distance in the ground to stand without a stone protection of this kind.

There are also some snags in the river on the opposite side from the stop-bank, which by gathering shingle-banks below themselves have a prejudicial effect, inclining to throw the river more on to the stop-bank. These should be removed also I think. The estimated cost of these works of maintenance is :—

Explosives, 200lbs dynamite, caps and fuse ...	...	...	£16	15	0
Labour, 25 days at 10s. ...	...	...	12	10	0
Repairs to apron, stone and wire (lump sum) ...	...	...	20	0	0
			£48	15	0

The foreshore in my opinion, between the end of the present crib-work and the old stop-bank, should be conserved by a facework of similar description to that already in existence (see plan attached), but with longer front piles, and having the apron in front more securely bound together by means of netting of annealed iron wire, No. 12 B.W.G. An extension of 400ft. would be sufficient, and the cost would be about the same as the cost of original work which was done—£827 10s. If this work is carried out it should be retreated back 30ft. from the line of the present work (as shown in green) so as to get into shallow water, as the erosion of the river has been allowed to go too far to make it any longer advisable to continue the work in same line. Such a course would now only cause considerably more expense without any corresponding benefit.