

months is said to have appreciably improved the facilities for vessels entering the port in heavy weather. This is stated by the Harbourmaster to be his opinion and that of the shipmasters trading here. If the direction of the heaviest seas shown on the annexed tracing is noticed the reason why this overlap is an element of safety will be obvious. A further increase of overlap would no doubt be an important improvement in point of safety, and would reduce stoppages at the port. It may be added, in explanation, that the direction of heaviest seas shown is also the direction of the prevailing wind and seas.

Training-banks.—The above observations apply to the effect of the breakwaters upon the bar; but besides these there are training-walls constructed in the river to deepen the channel and wharf-frontage.

Lower: The effect of the lower training-bank has been very marked. The channel between it and the south breakwater, which used to be very uneven, with a considerable range of depth in it, has now become uniform and deep, with soundings in the fairway of 23ft. at high-water, spring-tides.

Middle: The middle training-bank has not yet been acted upon by floods, so that there is no effect due to it so far; but it is expected that it will for its portion of the river do the same work that has been done by the lower wall.

Coal Creek: The effect of the Coal Creek bank has been to deepen the river opposite to it; but the shingle removed has been deposited lower down the river, for want of a wall connecting the Coal Creek and middle training-banks. This connection should be supplied as soon as funds can be made available, so that the scour may be continuous and the shingle be carried out to sea. An extension of the middle training-bank downwards towards the lower training-bank is also needed for same reason.

In general the result of these works must be regarded as satisfactory; but to attain the best results further expenditure is needed in additional training-walls, and also in a breakwater extension on south side to further improve the shelter for vessels entering the harbour.

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