

## Steamboat Inspection.

and Anticosti was found to be without movement. It would therefore appear probable that the return flow must consist of an inward movement of the water in some part of the width of the main channel, and perhaps usually on the Anticosti side ; and that this movement occurs either at the surface, or as an under-current at a moderate depth.

(7.)—*Influence of the wind.*—It appears probable that the chief reason that the current keeps along the Gaspé coast is because the prevailing winds on the Lower St. Lawrence are towards the south-east side. When the winds are also north-westerly in the Gaspé region they assist in keeping the current along that shore, and tend to increase its speed. On the other hand the current appears to be kept away from the coast, and to be most disturbed when the winds are from the southward of west (magnetic) on the Lower St. Lawrence, and at the same time south or south-east in the Gaspé region. The winds then blow in upon both ends of the waterway which forms the entrance to the St. Lawrence, and they have an off-shore direction along that part of the coast which the Gaspé current usually follows. The winds can only have the above directions in these regions when a low pressure area or storm centre is travelling along a course which lies to the northward of the St. Lawrence valley. The low pressure area itself on this course, when nearest to the Gaspé region, would also assist in checking and disturbing the usual current ; as the difference in barometric pressure tends to make the water flow towards the lowest pressure, just as in the case of the wind.

This northern course for an area of low pressure is less frequent, as the usual path of storms lies to the south of the St. Lawrence valley, or along the Atlantic sea-board. The conditions above indicated are therefore unusual ; and if the displacement and the reversal of the Gaspé current are dependent upon them, it is clearly correct to consider these conditions of the current itself as exceptional.

It may therefore be said in general, that vessels may expect to find the usual outward current from the north-west along the Gaspé coast, unless they have reason to infer from the weather they meet with, that a low pressure area or storm-centre is passing to the northward ; accompanied by winds which are southward of west (magnetic) along the Lower St. Lawrence ; and strong southerly winds with a falling or low barometer at the entrance to the St. Lawrence south of Anticosti. The condition of the current will then be disturbed ; and it may lie in the middle of the passage between the Gaspé coast and Anticosti ; while a current which is irregular, or possibly inwards from the south-east, may be found in the offing of the Gaspé coast. Vessels making inwards, especially if the weather is foggy, must not count too definitely however on the absence of the outward current as an assistance in rounding the Gaspé coast ; as under these disturbed conditions, there are times when the current may be setting more or less on-shore.

I have, sir, the honour to remain,

Your obedient servant,

W. BELL DAWSON,

*In charge of Tidal Survey.*