

THE ESTUARY

Some two years ago, a gentleman, at that time a resident in Sumner, knowing of my interest in the early affairs of the town, gave me a copy of the survey plan of the estuary, dated December, 1854, on which is recorded the various soundings taken during the survey. The plan was framed, and now adorns the wall of the vestibule of the Town Hall.

Since then, I have discovered that the survey was carried out as the result of the report of the Commissioners on the 7th April, 1854.

A copy of the report is set out hereunder:—

NEW ZEALAND
GOVERNMENT GAZETTE,
PROVINCE OF CANTERBURY

Published by Authority.

All Public Notifications which appear in this Gazette, with any Official Signature, are to be considered Official Communications, made to those Persons to whom they may relate, and are to be obeyed accordingly.

By His Honor's Command,

H. G. GOULAND,
Provincial Secretary.

Vol. I. Tues, December 19, 1854 (No. XXVII)

Provincial Secretary's Office, Christchurch, December 17, 1854.
HIS HONOR THE SUPERINTENDENT directs the following Report, received from Captain Drury of H.M.S. "Pandora," respecting the navigation of the Sumner Bar, to be published for general information.

By order of His Honor the Superintendent:

H. G. GOULAND,
Provincial Secretary.
H.M.S. "Pandora,"
Port Victoria,
18th December, 1854.

Sir:

Having at your request, examined the entrance of the Sumner, with a view to determine the possibility of rendering its navigation easier by removing obstacles, or otherwise improving it, I herewith transmit a report, and shall have much pleasure in forwarding you a tracing of the survey in a few days to be attached to this report.

We find the mouth of the Sumner to be situated two and a half miles N.W. of Godley Head, at the southern extreme of a long sandy beach: that the stream in meeting the projection of rocks on its south shore, bends rather suddenly from an eastern to a northern course: from this bend, the bar is one-quarter of a mile and one-sixth of a mile from the outer rock. (These rocks are above water.) It is 400 feet in width, with a depth at low water, springs of not less than 5 feet in the channel: the

soundings on either side of the bar decrease towards it gradually. The narrowest part of the channel within the bar is 150 feet: it is between the elbow and the rocks, but on passing this, where a vessel would turn, there is a space of 400 feet with not less than 9 feet at low water, and in the channel to the Shag Rock 10 to 11 feet.

The deepest water is found on the channel side of the rocks, 24 feet at low water.

The highest water in the bar would be 12 feet in springs, 9 to 10 feet at neaps, the rise and fall being from 7 feet in springs to 5 feet at neaps. The bar is composed of fine sand, the strength of current (I should think) never exceeds 5 to 6 knots.

With due deference to any opinions suggested for the improvement of the entrance, I have after three days' investigation come to the conclusion that any money expended in improving or altering the course of the outlet would be more likely to be detrimental to navigation than otherwise.

Of the number of similar bar harbours on the east coast of Great Britain, attempts at considerable expense, have not only been rendered fruitless, but in most cases engineering has been detrimental to the harbour, and the formations of angular piers, sea walls, etc., have eventually done injury to the cause they were intended to remove by accumulating deposit. Although, in some few instances, by obtaining a considerable scouring power by sluices, and sea-wall diverging towards the embouchure, the effect has assisted in deepening the channel to some small extent, yet such expense and its problematical result would not justify even consideration in this case. However, since some suggestions have been put forward with regard to improvements, and without arrogating any knowledge on engineering subjects, I may simply state what occurs to me would be the practicable results of interfering with the channel as it exists.

The filling up of the rocks extending from the Sumner Beach would form a resisting wall to the stream which would be diverted towards the western elbow, forming an acute-angled channel to the westward. The bar would, by the same cause be nearer the western shore and therefore shoaler.

By looking at the plan, it will be seen that the bar is at present in nearly a central position between the west and south shores, and therefore naturally in the deepest or best position. Therefore, if on the other hand, the suggestion of blowing up the rocks above-mentioned were carried out, the effect would be to straighten the course of the stream, but at the same time, leading it along a shallow beach forming a bar in shoaler water. The only other suggestion I have heard, is the filling-up of the rocks above to narrow the channel there, but I think at such a distance the only result would be to slightly hollow out the opposite embankment, and the effect below would be imperceptible. Any other disposition of the bar would be less advantageous to the port, it being, as I have already mentioned, midway between the west and south shores, and naturally in the deepest site.

I find that this river is not subjected to freshets, as it takes its rise in a swamp in the plains, and being unconnected with the mountain ranges is therefore less liable to changes by