

MINUTES OF EVIDENCE.

MONDAY, 12TH JUNE, 1882. (Mr. MUNRO in the Chair.)

Captain JOHNSTON, examined.

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12th June, 1882.

1. *The Chairman.*] Perhaps Captain Johnston will state what he knows about the Buller Bar, and the navigation of the Westport Harbor?—I do not know much about the bar since I surveyed it seven years ago. I can only say that it has altered, sometimes for the worse, and sometimes for the better than is shown on the chart of my survey that is now before the Committee.

2. *Mr. Fish.*] Is it likely that the bar will alter its position?—Yes, all the West Coast bars do alter, but this bar does not alter so much as others, because it is protected by Cape Foulwind; at the same time it is liable to alter to some extent.

3. Do you refer now to the depth?—Yes, and to the direction also.

4. *Mr. Hutchison.*] Would protective works prevent that?—Not unless they are carried into deep water. If you only carry your breastwork out a short distance, of course you must have two walls in order to get enough water. You would require both a long and a short wall. Unless you have both of these, the channel is likely to change alongside the one wall, and go in another direction altogether.

5. *Mr. Wright.*] Can you say how far it would be necessary to extend these walls in order to secure deep water?—I have seen the map now before the Committee, and I think it would be about a mile.

6. Then a training bank from the West Spit would require to be a long one?—Yes. (Witness here explained his views by constantly referring to the chart before the Committee.)

7. A heavy swell comes from the North-west, I believe?—Yes.

8. Are you aware that Sir John Coode recommends a training wall or pier 6,000 feet long on the eastern side, and one on the western side rather more than 4,000 feet long?—Yes.

9. You are clearly of opinion that any less length of groin than is indicated in the map, would not secure deep water permanently?—I am certain it would be no good, you would have to carry the work out for fully a mile before it would be of permanent use.

10. *Mr. Fergus.*] If you carried it out a mile, what depth of water do you think you would obtain?—About five fathoms at the outer end, when I surveyed it.

11. What depth of water would you have on the shallowest part of the bar if this wall were carried out according to the plan?—There is no doubt that it would absolutely deepen the bar to the extent of some feet.

12. What depth would you have in the channel as shown on the plan?—I cannot say exactly what the depth would be.

13. Do you think that if you were to carry out this wall to any less length than a mile, you would derive any benefit?—Yes, for the time being; but the benefit would not be permanent.

14. Do you think that by extending it to 20 chains you could get a depth of 16 feet on the bar at high water?—Yes, I think so; because the depth is already 14 or 15 feet at high water—I mean during spring tides.

15. You think you could get 16 feet of water on the bar without doing anything to the eastern wall?—I think that a short wall should be put on the eastern side, as well as the one on the western side.

16. *Mr. Wright.*] You have stated that a groin some twentychains in length would probably give 16 feet depth at high tide?—Yes, I think that would be about the depth it would give on the bar.

17. Then, assuming that you have 16 feet at high water on the bar, what would be the draught of the vessels that you would consider it safe to bring into the port?—If the water is smooth you can easily bring in a vessel drawing 15 feet. This bar is sheltered, and the sea is very frequently smooth.

18. What do you consider a safe margin between a vessel's bottom and the sand?—For a comparatively large ship I should say two feet, and for small steamers or boats a few inches in moderate weather.

19. The 16 feet that you think you could obtain, if your recommendation were carried out, would only admit vessels drawing 12 feet at neap tides?—Yes.

20. *Mr. Fish.*] Then, as a matter of fact, if you want to do really anything practical with that harbor you will have to make it so that there will be 16 feet of water on the bar at low tide?—Yes.

21. Sir John Coode states that between January, 1873, and July, 1876—a period of three and a half years—the depth of water averaged about 16 feet. Can you say what causes there were to preserve that uniformity of depth?—I presume it was a flood in the Buller River that caused the water to deepen, and that a long time after a north-west gale came and blocked the sand up again.

22. *Mr. Fergus.*] Suppose this wall were extended forty chains instead of twenty, do you think we should get a corresponding depth of water at spring tide?—Yes, I think so.

23. *The Chairman.*] Are the Government continuing the eastern wall?—Yes.

24. Do you think that the continuation of this wall will have the effect of deepening the harbor?—No, I do not think so. I do not think the harbor could be deepened much unless the second wall were erected, and in the manner shown on the chart.