

ever found in Hudson straits; the difficulty is field ice. I may tell the committee frankly that since I came down here I have studied every log book of every steamer available in the Department of Railways, and every track chart.

An hon. MEMBER: Any from Lunenburg?

Mr. DUNNING: Yes, some from Lunenburg. Of course, there is no market in Hudson bay for the kind of goods my hon. friend has in mind. What strikes one in connection with both the log books and the track charts, particularly the latter, is the fact that where a vessel does encounter ice, very frequently after being held up for a period varying from half a day to a week, it shortly finds a clear passage a few miles from where it originally struck the ice, but beyond the range of vision of the mariner at the time. As a matter of fact one vessel will find a clear passage relatively a few miles from another vessel that hits an ice field. The possibilities of hydroplane observation in that regard is receiving the attention of the technical experts of the government at the present time. In all probability valuable work can be done in that connection by communicating by wireless to the captain of the ship where he is likely to find open water. Under ordinary conditions without such aids the mariner of course is limited to his own vision from the ship. But these points are all under consideration now, and I can assure my hon. friend we require no commission of experts to take charge of them.

Mr. WOODSWORTH: Mr. Chairman, I am very glad to be assured by the minister that he has all this information before him. I would feel a little more satisfied if he were not quite so sure about the matter, because it seems to me with the very conflicting evidence which has been published throughout all these years we might very well have a little more definite information with regard to a number of the points to which I have already referred. However, I thought it was only right to explain my position with regard to this matter. I intend to vote for the expenditure if it comes to a vote. I am a westerner, and I have seen in the last forty-four years that great lone land develop until we have now three great provinces. I remember as a boy driving north from Calgary to Edmonton and ferrying across the river there. At that time there was absolutely no evidence that within a few years an imposing provincial capitol on one bank and extensive university buildings on the other would overlook the little

ferry that then lay before the old fort. Any of us who have pioneered in the west, have become convinced, I think, that we must take some chances. I might remind the House that although we have not as full or convincing evidence as I should like before committing ourselves to this additional expenditure, the chances we are taking in going on with the Hudson bay undertaking are not nearly so great as the chances which western men continually have to take in carrying on their private business affairs.

There is just one other point I wish to mention before sitting down. I do not think we have started to estimate the water-power that will be made available in that northern country by the construction of this railway and the opening up of the country. We may get minerals; we probably will get fish, but I am sure these water-powers will repay us fully; they at least are already in sight.

Mr. CAMPBELL: I have no intention of taking up much of the time of the committee at this late hour in a discussion of this matter. The question has been under discussion in this House for the past five years, but for the benefit of the hon. member for Winnipeg North Centre (Mr. Woodsworth) I would like to refer to a report by an engineer named J. W. Tyrrell, who was sent to the Hudson straits in 1903 to study conditions. He established himself in a chamber in the rocks four hundred feet above water to study the ice conditions during the whole winter. He states in his report that there was no time during the winter when the ice was not constantly on the move, and that there were open spaces through which a vessel could pass in all except two months of the year, January and February. That is very much in conflict with the statements of the hon. member for Winnipeg North Centre, and would imply that there are some years at least when the ice conditions are not so bad. Then I would refer to a report made by Mr. A. P. Low, another engineer who was sent to the bay in charge of the steamer Neptune. He wintered inside the straits and came out in the spring, and said in his report:

There is little doubt that a specially constructed ship for ice navigation might pass through Hudson strait at any season, but the voyage would be long and the difficulties and dangers would be great.

I might refer again to the Senate report of 1907. In part the report states:

The consensus of opinion of witnesses is that Hudson bay remains open all year, strait also open all or nearly all year and would be open all the time except for drift ice from the channel. Aids to navigation would greatly facilitate and extend length of season.