

Manukau, afford good anchorage and spacious accommodation, once the bars at their entrances have been passed. There are also the small bar harbors of Waikato, Whangaroa, and Kawhia, together with a few open roadsteads such as New Plymouth, &c.

On the east coast are Russell—where coal can be procured—the Thames, and Tauranga further south. There are good roadsteads also at Gisborne and Napier.

In the South Island the coast line is about 1,130 miles ; the two principal harbors are Lyttelton and Otago, both on the east coast, and situated about 190 miles apart.

There is also a good harbor further south, at the Bluff, which holds an important position, as being the last port of departure and the first of call for vessels trading between New Zealand, Tasmania, and the southern ports of Australia.

The minor harbors are Akaroa, Nelson, and Picton, but there are several roadsteads, such as Timaru and Oamaru, on the east coast ; and Hokitika, Greymouth, and Westport, on the west coast, where breakwaters are being constructed to shelter vessels in all weathers.

Coal is exported from Greymouth and Westport, and at the latter place especially there are extensive and valuable deposits.

The sounds along the south-western portion of the coast are numerous, with very great depth of water, but they are not of any practical value, being surrounded by high and precipitous mountains, without any settlements on their shores.

It will be gathered from the foregoing statement that the only ^{Places likely to be attacked} places of sufficient importance to require local protection at present are Auckland, Wellington, Christchurch, Dunedin, and possibly Invercargill. No doubt an enemy might occupy one of the minor harbors, such as Russell, Tauranga, Nelson, Picton, or Akaroa, with a view to making special preparations for an attack upon one of the large ports above referred to—or he might issue from them to capture passing vessels—or again, he might lie off such roadsteads as are to be found at Gisborne, Napier, Timaru, or Oamaru, for the purpose of levying contributions.

Such operations could be counteracted either by naval means or by providing local protection for each place ; but as a large expenditure would have to be incurred in order to provide against all these contingencies—and the country cannot at present afford the outlay—I shall consider more particularly the measures necessary for the defence of the five principal harbors of the colony, and confine myself to giving an outline of the principles upon which that of the other places should be based.

The towns, situated on the principal harbors, can only be approached by sea through channels which afford, more or less, natural facilities for the provision of fixed defences. These defences should consist of land batteries—rendered self-defensible and independent of