such as the variation in the amount of water derived from the melting of Antarctic ice or the varying intensity and duration of trade-winds which influence the movements of water masses in the oceans.

When we know more about such phenomena in this part of the world, and the extent to which they show variation from year to year, we shall be able to understand more about the goings and comings and the variation in abundance of sardines and other fishes.

Toheroas

For obvious reasons it is a good thing, conservationally speaking, that our toheroa-beds are rather remote from the more densely populated places. This advantage to conservation, nullified by the coming of the motor-car, is again effective under conditions of wartime motor-fuel restriction, although these conditions have limited departmental activities for investigation and protection rather more than they have hampered exploitational operations. However, the Marine Biologist has been able to make periodical though brief visits to the principal toheroa beaches, and it is mainly from his reports that our information about existing conditions is derived.

On the Ninety-mile Beach the toheroa-beds have not yet returned to the well-stocked condition in which they were when decimated by the great mortality that occurred in 1938. Some improvement, however, has been shown over successive years, and at present there are moderately good beds developing over about twenty miles of this beach which were almost barren of sizeable toheroas a year or two ago; but their average size is low—very close to the minimum that is suitable for commercial supplies. A degree of restraint in exploitation is more necessary for these beds than for those on the beaches farther south. The recent appearance of dense and extensive beds of *tuatua* (the common pipi) is likely to have an adverse effect on the well-being and abundance of toheroa.

On the North Kaipara Beach the beds appear to be increasing in the southern part of the area and were well stocked with fat toheroas of good average size, together with a satisfactory proportion of younger stages, when inspected recently. The beds in the northern part of the area, which appear to be subject to more variation from year to year, are not so densely populated, but contain molluscs of large size in more than usual abundance. Depletion is evident on those parts of the beach in the vicinity of roads and tracks.

The beds on the Muriwai Beach are well stocked, apparently not so numerous as a year or two ago, but some of them are of considerable area. The larger sizes appear to predominate, and thus it would appear to be safe, and even expedient, to allow a greater degree of exploitation here than, for instance, on the Ninety-mile Beach.

Rock Oysters

Oyster-picking for the 1943 season commenced in the Bay of Islands and Kaipara Harbour on the 13th May, and in other areas on the 17th May, and closed on 3rd August. A total of 5,828 sacks (17,484 bushels) was obtained from the various areas, as follows: Bay of Islands, 2,193; Whangarei Harbour, 127; Kaipara Harbour, 1,338; Coromandel, 650; Hauraki Gulf, 1,520 sacks.

The quantities obtained from the several areas of the Hauraki Gulf were: Mahurangi, 275; Rakino, 83; Tamaki Strait, 223; Motutapu, 41; Waiheke, 574; Ponui, 245; Pahiki, 19; Pakatoa, 60 sacks.

Difficulties were encountered through the prevalence of adverse weather for the greater part of the time, and by the fact that labour shortage necessitated the employment of some inexperienced pickers. The total brought to market fell short of the 1942 season by 22 sacks.

Area. *Oyster-cultivation for the Year ended 31st March, 1944*

I. Bay of Islands: 4,526,000 borers and 1,910 pupu destroyed, 50 square yards of rock cleared of dead shell and 5,389 square yards cleared of weed, 800 square yards of oyster-bearing rock moved down to a better position, and 600 square yards of clean rock distributed on the beds. Cost, £609 6s. 6d.

II. Whangarei Harbour: 87,700 borers and 50 pupu destroyed and 824 square yards of rock cleared of dead shell. Cost, £38 5s.

V. South Shore, Tamaki Strait: 33,000 borers and 15 pupu destroyed. Work done by staff. No cost.

XIII. Waiheke: 754,500 borers and 367 pupu destroyed and 743 square yards cleared of dead shell. No cost.

XIV. Ponui: 299,500 borers and 103 pupu destroyed and 574 square yards cleared of dead shell. No cost.

XV. Pakihi: 119,000 borers and 80 pupu destroyed. No cost.

XVI. Great Barrier Island: 500,000 borers destroyed and 441 square yards cleared of weed. Cost £84 12s. 6d.

Total for all Areas: 6,319,700 borers and 2,525 pupu destroyed, 2,632 square yards cleared of dead shell, 5,389 square yards cleared of weed, 800 square yards of oyster-bearing rock shifted, and 600 square yards of clear rock distributed. Cost, £732 4s.

Dredge Oysters: Foveaux Strait, 1943

In the 1943 season nine vessels operated and landed a total catch of 73,118 sacks. Practically throughout the season the industry was favoured with fine weather, which no doubt contributed to the high total catch for the season. Seven of the vessels exceeded the 7,000-sack limit imposed under the conditions under which Industrial Efficiency Act licenses were held, and after reaching that catch were allowed to continue operations west of a line drawn from Barracouta Head on the mainland to Gull