

*Sharks.*—Two large sharks were seen, probably *Carcharodon carcharias*, and during the summer months it is reported that many small sharks come close inshore, where they are sometimes caught for sport. If suitable collecting methods were organized there are good prospects of establishing a sizeable liver-oil industry. All the islanders connected with the sea for a livelihood are said to know how to kill sharks by a knife thrust behind the pectoral fin—as sharks are a menace, and it is not safe to venture far in a small boat. Most launches have at some time been attacked by a big shark.

*Seals.*—They are said to be increasing and to feed on blue cod—a large ball which was shot at Okawa Point had only three octopuses in the stomach, the largest having tentacles 15 in. long, so seals may at least be said to compete with cod for food. There is not a vast number on the mainland, and from Okawa Point to Kaiangaroa, the only part where seals were seen, it is estimated that there were less than one hundred, about fifty at Okawa Point, and thirty at Te Whakaru Island. Reports indicated that at times colonies of two hundred were to be seen on the mainland in this vicinity.

*Blue Cod.*—This was the principal interest of the visit. Chatham Island blue cod are at least equal and probably superior to the best landed in New Zealand and Stewart Island. The fish caught were mostly over 14 in. in total length, and the average weight, headed and gutted, in four commercial samples was in all cases over 1½ lb. The rate of growth is approximately the same as the fastest-grown fish so far examined from Cook and Foveaux Straits regions.

Prior to 1931 there were twelve fishing-boats at the Chathams, but when the fish-carrier "South Sea" commenced operations the number of vessels increased to eighteen. During the past years the fleet has dwindled, some boats because of the absence of regular transport having sailed to New Zealand to fish, with the result that it will probably take some time before the fishing fleet reaches its previous strength and high standard. At present there are only five or six fishing-boats at the Islands. The "Silver Dawn" during my visit was completely wrecked when she broke from her mooring in a northerly storm.

The original fishing settlement was Port Hutt, the best anchorage at the island, and the western reef, about twelve miles distant, was for many years an excellent fishing-ground and is said to-day to yield the largest cod in in-shore waters. There is, however, no land for farming near to Port Hutt and living conditions are not satisfactory. Freezers were subsequently erected at Owenga and Kaiangaroa, on the south-east and north-east coasts respectively. Anchorage in both places is poor, and there is no wharf at either place; the stores or fish are landed from ship or launch to surf-boat, then into a dray drawn by three horses into the tide and so ashore. Loading cannot proceed when there is much swell. The Owenga freezer is not now operating. In 1931 the "South Sea" commenced trading to the Chathams, six boats fishing exclusively for her.

The chief advantage of a large vessel from which the launches fished was that a change in weather which would make fishing impossible for shore-based vessels could be countered by a change to another part of the coast. Little fishing was done from the "South Sea," but this is a development which may be possible for subsequent ventures; it appears to be the only satisfactory manner in which off-shore grounds may be fished. When the "South Sea" was loaded (or coal had run low) she returned to Wellington and the fishermen to their homes till next trip.

Although it has been stated on several occasions that fishing was showing signs of depletion, it is probable that the fishing-grounds at and around the Chathams would support at least one shore station and two vessels of the "South Sea" type. Fishing would not always yield such rich harvests as during the first years, and the average size of the cod would fall, particularly on the more accessible grounds, but full cargoes would probably be obtained in reasonable time.

New codding-grounds continue to be found close to the land, and it is said that whaling-vessels at one time awaited the arrival of whales about fifty miles to the south of the Chathams, and good cod were to be found there also.

#### PILCHARDS

The Marine Biologist continued his investigations on the pilchard fishery in Marlborough Sounds. The catches have not been large, and a high proportion was salted instead of being canned because of the difficulty experienced in transporting the fish from Te Rawa, in Pelorus Sound, to the cannery at Picton.

#### TOHEROAS

Two inspections of the North Auckland west coast beaches were made. On the Ninety-mile Beach toheroas are gradually reappearing to the north of the Waipapakauri road in some abundance, but they are small, few being over 3 in. long. Even with careful husbanding of supplies it will be two years before moderate numbers of good-sized toheroas are available. The tuatua, although leaving the southern end of the beach, are still present in dense beds farther north. There are practically no toheroas north of Mangonui Bluff.