

that the steam-trawler owners have made very little if any profit from their operations, especially since they suffer most from the unsatisfactory post-earthquake harbour facilities, while their working-expenses, and particularly the harbour charges, are higher than when fishing, port facilities, and markets were good. The Diesel-engined trawlers and Danish seiners, on account of their lower working-expenses, have been better able to hold on against the difficulties caused by poor fishing and poor prices. Among the factors which have been indicated as responsible for the recent scarcity of fish on the Napier trawling grounds are the unfavourable weather conditions arising from the abnormal prevalence of easterly winds, the occurrence of a slime in the water (which was of organic origin—apparently a lowly organized plant form), and the presence, on the area that had formerly been the best flatfish ground, of material deposited from the dredger employed in connection with the harbour-works. The trawlers have consequently been obliged to concentrate more on the pursuit of the "round" fish which frequent the deeper and more off-shore waters; the market value of their catches has thus been reduced, and the continuity of their operations has been subject to more than the normal amount of interference.

In the Wellington area there are numerous small craft engaged in line and set-net fishing which operate very sporadically, and it is difficult to get information about their fishing. The bulk of Wellington's fish supply comes from the two steam trawlers and the fleet of longliners working from Island Bay. The two steam trawlers operated steadily throughout the year, fishing mainly on the Cape Campbell and Kapiti grounds, and occasionally extending their range to the neighbourhood of Kaikoura on the east coast and to abreast of Westport on the west coast of the South Island. Rather more fish has been landed from the trawlers than during 1934-35, but their catches of groper, hake, and barracouta show a diminution. More than half of the total landings consisted of tarakihi. The data available regarding the long-line fishing show a slight increase for groper, hake, and ling in the average landings, which may be due to the employment of more intensive catching methods.

During the year the "South Seas" has brought to Wellington eight cargoes of fish caught by the Chatham Island line boats, consisting principally of blue cod, with smaller amounts of groper, warehou, and tarakihi.

Thanks to the energy and interest shown by the local inspector and to the helpful co-operation of the fishermen, a fairly complete record of fish caught in the French Pass and lower Pelorus Sound areas has been obtained for this year. Most of this is sent to Wellington by steamer from French Pass. From eighteen fishing boats a total of 1,919 cwt. of fish, consisting of about 45 per cent. blue cod and about 32 per cent. groper was shipped from French Pass during the year. The returns indicate that the fishing in this area is too intermittent to be satisfactory from a producer's or from a distributor's point of view. The causes of this are mainly difficulties of transport and interference by bad weather. Most of the fishermen use small launches and cannot venture far from their harbourage. The low market prices that have prevailed have tended to keep the fishermen ashore, except when conditions were favourable for good results.

In my last two reports references were made to the impoverishment of the flatfish grounds in Tasman Bay, which had been worked by Danish seiners from Nelson during the past few years. It has not been possible to keep in sufficiently close touch with the commercial operations to obtain comprehensive information about the prevailing conditions from time to time. It may, however, be said that, following a diminution in the intensity of fishing operations, the grounds appear to have improved somewhat in 1935 and 1936. From October, 1934, to August, 1935, observations, with analyses of Danish-seine catches, were made in each month by the Marine Biologist, Mr. M. W. Young, or by Mr. A. M. Rapson, B.Sc., with a view to getting an understanding of the character of the fish-stocks and of the fishing-grounds. Some valuable preliminary results have been obtained with regard to size, distribution, growth, food, and spawning habits of the principal flatfish species in the area. As in the two previous years, the lower portion of Pelorus Sound was thrown open to the operations of Danish seiners for the months of April, May, June, and July, 1935. The catches were reported to be of moderate dimensions, and, presumably on this account, and also because of the difficulties of transport to markets, the grounds in the Sounds were fished only occasionally during the open season.

It has been possible to obtain only a general impression of the conditions off the east coast of the South Island, but it would appear that the fishing has been below average standard, and rather more than usually checked by bad weather. Generally speaking, flatfish as well as groper supplies have been below requirements. As might be expected, the small-boat and inshore fishermen have been most seriously affected and some of the Otago men have abandoned the fishing.

Between August and October, 1935, the trawling-grounds in the Wellington District were worked by the Sydney steam-trawler "Alfie Cam," which called at Wellington for coal and ice. It is understood that she worked the off-shore grounds, and, so far as the catches of fish were concerned, obtained good results. A second trawler ("Olive Cam"), belonging to the same firm, fished off the Otago coast in December, 1935, and January, 1936, under a New Zealand license and made fairly good catches, which were landed at Port Chalmers, where the owners had acquired a temporary depot. Further visitations by Australian trawlers in the future have been foreshadowed. If New Zealand trawler-owners and fish-exporters wish successfully to meet this threatened competition on their own grounds, it will be necessary for them to do everything that is possible in the direction of improving the quality of their exported fish by utilizing the best methods of handling, freezing, storage, and transport. There is evidence that, with Government encouragement and assistance, fishing-vessel owners in Australia are getting abreast of the most modern practices in the storage and transport of frozen fish. There is presumably no legal obstacle to an Australian firm establishing a depot in the Dominion, taking out licenses for trawlers here, and working the same grounds that are open to New Zealand trawlers. If the developments that are foreshadowed should take place, it will behove the Department to keep in close touch with the realities of the situation (which cannot be done by reading press cuttings) and to be in a position to prevent the possibility of depletion of fish-stocks by over-intensive or wasteful fishery operations. All that is definitely known about the New Zealand trawling-grounds points to the conclusion that they are not of very considerable extent.