

The fact is that the fish on the grounds were fewer and catches were less. A significant and perhaps ominous feature of the fishing is that the best catches were made in the month of August, which is the height of the spawning-season for dabs and flounders.

Three steam trawlers operated from Auckland, but the "Serfib" was lost on the 8th June, 1933. No trawling took place in the month of December, and the intensity of fishing throughout the year was equivalent to the continuous operation of one trawler—*i.e.*, 12 trawler-months compared with 15½ trawler-months in 1932-33 and 27 in 1931-32. The operations were divided fairly equally between the outer part of the Hauraki Gulf and the East Coast Grounds (Bay of Plenty to East Cape).

Observations on the spawning of snapper were made by Captain Daniel, who took tow-nettings from the area between the Noisies and Kawau on the 4th December and on the 21st January. The region of greatest spawning activity as indicated by the density of the occurrence of the floating eggs was an area of about twenty to thirty square miles immediately to the eastward of Tiritiri with surface-water temperatures from 18° C. to 18.9° C. (64.5° to 66° F.) on the 4th December, and 19.0° C. to 20° C. (66.2° to 68.0° F.) on the 21st January. Anchovy (*Engraulis australis*) and horse-mackerel (*Trachurus novae-zelandiae*) eggs were taken in the tow-net, together with the snapper eggs. Ripe flounders and dabs of both sexes were obtained on the "Dab Patch" (midway between Ponui Island and Deadman Point) for the first time on the 8th August. This year the spawning period of these two species nearly coincided, the dabs being slightly the earlier. By the end of August the majority of both species had finished spawning.

A very limited amount of fishing for sardines took place, about 31 cwt. taken by fishing with a bright light being landed at Auckland in October and about 50 cwt. caught by drift-net in daylight were landed at Thames.

Lack of demand for fish with consequently depressed prices brought about a reduction in the strength of the fishing fleet at Thames, especially of Danish-seiners, but the quantities landed have not fallen off so much as might have been expected. The total landings for the last three years were

1931-32	..	..	..	21,291 cwt. valued at £21,116.
1932-33	..	..	..	18,078 cwt. valued at £14,029.
1933-34	..	..	..	17,412 cwt. valued at £13,595.

The poor demand for fish at Thames caused a reduction in the number of line-fishing boats operating at Mercury Bay, where, however, eighteen boats worked at crayfishing to supply the demand brought about by increased requirements for canning and for export.

The Hawke's Bay fisheries are reported to have been very good on the whole so far as trawling operations were concerned, flatfish, particularly soles, being in abundance from December to March while some large catches of tarakihi were landed in June and July. Prices have been poor, however, the quantities landed frequently exceeding the local demand which has been supplied to an increased extent by fish caught by long-shore men and sold by hawking. Post-earthquake difficulties arising from the loss of proper harbour accommodation continue to be a source of trouble and expense to the trawler fleet.

Of the principal trawler fish landed at Wellington, tarakihi, which comes first in abundance, shows an increase over last year's landings, as also do snapper, moki, and barracouta. Hake catches by this method of fishing have been very much less, and the total quantity of all kinds of deep-sea trawled fish has been slightly less than last year.

The fish-carrier "South Sea," whose first landing in February, 1933, was recorded in the annual report for last year, has continued to land at Wellington once or twice each month throughout the year, with the exception of April, 1933, and January, 1934. Blue cod to the amount of 10,085 cwt. and 487 cwt. of proper caught by Chatham Island fishermen and frozen on the "South Sea" were shipped during the year, and 6,679 cwt. of blue cod were frozen on the island for subsequent shipment to Wellington. The bulk of this fish was exported to Australia. Considerably smaller quantities of blue cod were consigned to Wellington from the French Pass than in previous years, the demand having been weakened owing to the competition of the above-mentioned supplies from the Chatham Islands. Moreover, the French Pass fishing-grounds are considerably less productive than they were a few years ago. Unfortunately no precise records are available. A further report of depleted fishing-grounds, obviously well-founded but without any definite quantitative evidence, is to hand with reference to the Nelson fishing industry. Here it is the flatfish grounds of Tasman Bay and Admiralty Bay, which formerly yielded abundant catches, that are now described as "played out." These fisheries in recent years have been continuously worked by Danish-seiners, whose operations have increased in intensity as the prices and catches diminished. According to our annual returns the numbers of whole-time Danish seiners at Nelson during the last five years have been as follows: 1930, 2; 1931, 2 (?); 1932, 7; 1933, 12; 1934, 13.

It would appear that only a relatively small proportion of the total area of Tasman Bay is suitable for Danish-seining operations. The middle of the bay is said to be too rough to work, and therefore these operations tend to be concentrated on the inshore grounds which are smooth and of course more sheltered in bad weather when the wind is off the land. It is possible that the grounds unsuitable for seining may also be naturally deficient in fish. A rational fishery exploitation can only be guided by an adjustment of fishing intensity (or fishing restriction) to the available stock of fish in the area; which adjustment can only be made on the basis of knowledge derived from a statistical study of fishing operations and their yield, preferably supported by biological facts about the fishes. The former alone would go a long way towards elucidating the conditions, and, indeed, would of itself bring to light important biological facts as to the occurrence of the fishes without very much in the way of additional special observations.