

THIRD ANNUAL MEETING.SUMMARY OF RESEARCH WORK CARRIED OUT BY THE UNITED KINGDOM
IN THE I.C.N.A.F. AREA IN 1952.

The English Research Vessel "ERNEST HOLT" made two cruises to South Greenland during the autumn of 1952, one of which took place in the Commission's Panel 1 area, when banks between Cape Farewell and Cape Desolation were explored during the period 4 - 16 September.

The banks proved to be on the whole difficult for trawling. East of Cape Desolation the bottom was found to be uneven and rough with areas of promising looking bottom, judging by sounder records, limited to the crests of the banks off Sermersok, Nanortalik and Kitsigsut. Even here, however, the trawl was frequently damaged, probably by boulders deposited by the many icebergs which melt here. Polyzoa and hydrocorallines were also responsible for net damage on some grounds.

In addition to the icebergs, which are widespread in this region and necessitated the carrying of radar and searchlights, fog and strong currents of up to 40 sea miles a day were common physical hazards making navigation and handling the trawl difficult. Furthermore, the sky was overcast for long periods and astronomical fixes were infrequent - an added difficulty on a coastline little known and often inaccurately charted. Inaccuracies checked have been forwarded to the Admiralty together with sketches of coastwise features.

LORAN cover extends over most of the area and appears to be a valuable navigational aid although only limited trials were carried out by the "ERNEST HOLT".

Cod was the predominant species caught, but fishing was patchy with the paying quantities only found feeding in water of below 2°C., i.e. comparable with those found in the Barents Sea around Bear Island and Hope Island. Capelin, amphipods, and some euphausiids were the most important food organisms - as also at Bear Island and Hope Island in the Barents Sea - but the Cape Farewell area fish included a greater proportion of benthic animals, especially many species of amphipods, in their diet. Low length/age figures suggest a relatively poor feeding area although insufficient material is available on other factors affecting growth. Age composition of the shoals from the five grounds visited was remarkably uniform and showed that the shoals were composed largely of one rich year class, that of 1945, 7 1/2 years old when sampled, which represented approximately 60% of the total sample. Otolith structure was also constant and tended to confirm that the shoals in this area belonged to one population. However, no sampling was carried out up the west coast, and it is not known where the northern limit of this population may lie and indeed its relationship to the western bank population requires investigation.

256 cod were tagged with Lea tags (a residue from the Holt's 1951 Bear Island marking experiment) and released in the Cape Farewell region in order to test the hypothesis that the mature and first time spawners would spawn at Iceland.

Eight tagged fish were recaptured within the first month after release in the same general area by British trawlers.

Landing statistics indicate heavy fishing in the same region through the season until the end of 1952, and market sampling for otoliths has been instituted in order to continue the study of races in southern Greenland waters.

No further work was done by the United Kingdom within the Commission's area, but the halibut stocks in the waters between Greenland and Iceland have been investigated and some of the results may be relevant.

In one paper¹, the statistics of the Scottish halibut line fishery off East Greenland during the period 1930-49 were reviewed; they illustrate the fluctuations in effort and stock over the period, in comparison with similar statistics for grounds off the west coast of Iceland and elsewhere. Catches increased considerably after the war attaining in the period 1945-49 annual averages per hundred lines fishing which compared favourably with those of the early 1930s. Comparison with data from the other grounds makes it seem probable that the high catches obtained after the war may not have been due so much to reduced fishing as to natural fluctuations in the stock.

Another paper² gives an account of the food of halibut from various grounds in the North Atlantic, including those to the west of Iceland, and it may be that the results bear some relation to the feeding of halibut in the Commission's area. The large halibut caught there were feeding on only a few species of organisms, and one species, Sebastes marinus, constituted over 75 per cent of the food by volume. In view of our knowledge of the food of Sebastes itself, this confirms the belief that the halibut probably leaves the sea-bed in pursuit of its food; in these waters, at least, the benthos formed only a relatively small proportion of the food, and that mainly of the younger halibut.

¹McIntyre, A.D. Mar. Res. Scot., 1952, No. 1.

²McIntyre, A.D. Mar. Res. Scot., 1952, No. 3.

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