



Serial No. 1307

(D. a. 63)

Document No. 14ANNUAL MEETING - JUNE 1964United Kingdom Research Report1. Commercial Fishing

Preliminary figures show that the total U.K. catch from the ICNAF area increased substantially to over 40 thousand tons in 1963, compared with about 25 thousand tons in 1962. The biggest increases were from Newfoundland, where the catches, principally of cod, more than doubled to around 12 thousand tons, and from Greenland, particularly the central part (regions 1C, D and E) where the catches increased from about 5 thousand tons to 12 thousand tons. The catches from the southern part of Greenland (1F) increased very slightly and there was a substantial fall in the landings from Labrador. The increase at Greenland was mainly due to more fishing (nearly double that in 1962), particularly in regions 1C, D and E, where there was also a rise (by about 40%) in the catch per unit effort. In the southern area (1F), the catch per unit fell slightly, though the effort rose.

2. Sampling

Routine sampling was continued at the ports of Grimsby and Hull, and on board the FAIRTRY factory vessels. At the ports 9,000 cod from Greenland, 500 from Labrador and 250 from Newfoundland landed by conventional trawlers were measured, and 350 cod otoliths from Greenland were collected. On board the factory trawlers 44,000 cod, 2,000 haddock and 240 coalfish (pollock) were measured, mainly at Newfoundland. The results will be presented for inclusion in the Sampling Yearbook.

3. Research Vessels

R. V. ERNEST HOLT made two cruises to East Greenland to take part in the NORWESTLANT Surveys I and III. During NORWESTLANT I the ship worked in the sector between Cape Farewell and Cape Mosting from 9th April to 1st May, completing three hydrographic sections, a grid of stations for fish eggs and plankton, and some direct current measuring over Fylkir Bank. The main finding was of large numbers of cod eggs at stations over the coastal banks all the way from Cape Farewell to Cape Mosting. The sector worked on NORWESTLANT III from 30th June to 23rd July was between Cape Mosting, the Denmark Straits and Faxe Bay. It included three hydrographic sections and an extensive grid of plankton stations. Some cod larvae were caught in the Anton Dohrn Bank area of the Denmark Straits, but few elsewhere: redfish larvae were scattered throughout the area. A bottom temperature recorder was laid in the Denmark Straits in 225 fathoms and successfully recovered three weeks later.

The Scottish R. V. EXPLORER took part in NORWESTLANT III in the waters to the south of those occupied by ERNEST HOLT, again with hydrographic sections and a grid of plankton stations. Intercalibration was arranged with ERNEST HOLT. No cod larvae were caught and seldom were redfish larvae found to be abundant. No fish eggs were found, but significant information was obtained on the distribution of plankton indicator species. Significant anomalies were recorded between chart soundings off the Greenland coast and echosounder records. By the kind cooperation of other research vessels, productivity studies were made in the Irminger Sea over the course of NORWESTLANT I-III.

4. Environmental Studies

In addition to the research vessels, the NORWESTLANT environmental surveys were also supported by the Continuous Plankton Recorder service operated from the Edinburgh Oceanographic Laboratory, which maintained recordings in the ICNAF area throughout the year. Attached is a more detailed account of that laboratory's work, by Mr. R. S. Glover.

C. E. Lucas
R. J. H. Beverton

United Kingdom Research Report
1963
Annex
Oceanographic Laboratory
Edinburgh

Continuous Plankton Recorders were towed at monthly intervals throughout the North Atlantic. In the ICNAF area, Danish, Icelandic and British merchant ships and United States Coast Guard cutters provided 26,659 miles of continuous sampling (compared with 18,000 miles in 1962 and 7,500 miles in 1961). The programme was supported by grants from the British Treasury and by contracts N62558 - 2834 and 3612 between the Scottish Marine Biological Association and the Office of Naval Research, Department of the United States Navy.

The routes which sampled in the ICNAF area were as follows: an asterisk indicates a new route started during 1963.

- D - British merchant ships steaming between Liverpool and St. John's, Nfld. (sampling in ICNAF Subarea 3).
- Ea - British merchant ships, between St. John's and Halifax, N.S. (sampling in ICNAF Subareas 3 and 4).
- Eb - British merchant ships, between Halifax and Boston, Mass. (sampling in ICNAF Subareas 4 and 5).
- F* - British merchant ships, between the north of Scotland and Canadian ports (sampling in ICNAF Subarea 3).
- G - A ship of the Royal Greenland Department of Trade between the north of Scotland and Cape Farewell (sampling in ICNAF Subarea 1).
- Gd - A ship of the Royal Greenland Department of Trade from Cape Farewell northwards along the west coast of Greenland, depending on the ice conditions (sampling in ICNAF Subarea 1).
- Na* - United States Coast Guard cutters between Newfoundland and ocean weather station BRAVO (sampling in ICNAF Subareas 2 and 3).
- Nb* - United States Coast Guard cutters between Newfoundland and ocean weather station DELTA (sampling in ICNAF Subareas 3 and, occasionally, 4).
- Z - Icelandic merchant ships between Reykjavik and Newfoundland (sampling in ICNAF Subareas 1, 2 and 3).

The mileage sampled in 1963 is shown below for each of the ICNAF subareas in each month and for the whole year.

MONTH	AREA 1 miles	AREA 2 miles	AREA 3 miles	AREA 4 miles	AREA 5 miles	TOTAL miles	No. of RECORDS
JAN	-	-	-	-	-	-	-
FEB	-	277	1280	337	-	1894	5
MAR	-	220	1566	256	-	2042	6
APR	259	247	735	200	-	1441	4
MAY	325	452	1269	-	-	2046	8
JUNE	1352	460	1152	353	83	3400	11
JULY	889	1143	1024	472	85	3613	11
AUG	298	894	752	385	122	2451	7
SEPT	542	1175	919	-	-	2636	9
OCT	435	803	1026	349	84	2697	9
NOV	767	1308	529	-	-	2604	9
DEC	140	569	1126	-	-	1835	6
TOTAL	5007	7548	11378	2352	374	26659	85

The analyses of this material will be incorporated into the long-term study of variation in the plankton of the North Atlantic and North Sea which is the major objective of the Edinburgh Laboratory.

Among the topics studied during 1963 from material collected in the ICNAF area were:

- a. The distribution and abundance of cold- and warm-water species in relation to the hydrographical conditions in the Newfoundland-Labrador area.
- b. Biogeography; for example, a new species of diatom was found extensively and abundantly distributed in the ICNAF Area.
- c. The distribution (in relation to the temperature regime) of the larvae and post-larvae of two species of echinoderms for which there are no known adults.
- d. The life history, growth and population characteristics of Calanus finmarchicus (including C. glacialis) and Thysanoessa longicaudata, two of the most important constituents of fish food in the area.
- e. The distribution and abundance of the larvae of Sebastes.

Although, strictly, the work lies just outside the ICNAF area, it should be mentioned that the pelagic fishing experiments for redfish (started in 1962) were continued throughout 1963. The crews of Dutch, Norwegian, French and British weather ships used rods and lines when they were on duty at weather station ALFA. Adults of Sebastes mentella have been returned to the laboratory for studies of the reproductive cycle, fecundity, food and parasites. It seems likely that there is a resident stock in this position throughout the year.

The laboratory has collaborated in the NORWESTLANT surveys, both through the Plankton Recorder survey and by assisting in the analysis of plankton samples collected by Danish and German research ships. A special attempt is being made to study the food of larval redfish in this material.

R. S. Glover
5th March 1964