

CRUISE REPORT.F.R.V. "SCOTLA".February, 1950.

Owing to delay in completion of the ship's refit, sailing was postponed until the 7th February. Accordingly the final date for return to Aberdeen was changed to the 22nd February.

The primary objective of the cruise was to survey the haddock spawning stocks - with particular reference to those of the north Scottish coast. Unfortunately, continuous bad weather throughout the period of the cruise resulted in a major curtailment of the original programme. None of the stations west of Shetland or east of longitude 1°W were occupied. At several of the remaining stations heavy weather or unsuitable bottom conditions resulted in the omission of some of the items stipulated in the programme.

HYDROGRAPHY:

Routine temperatures and salinity samples were taken at the standard depths at all the stations occupied during the cruise. In general, temperature showed little variation with depth, particularly in the North Sea. Surface temperatures varied between 7.5° - 8°C. in the area between Butt of Lewis and the Fair Isle passage and at the two stations east of Shetland. At the two stations north and west of the Butt of Lewis, on the edge of the continental shelf, the surface temperatures were markedly higher (9°C.) and temperatures above 8°C were also reported at two stations north of Shetland. In the Moray Firth and off the north-east Scottish coast they were considerably lower (6.7° - 7.2°C). Phosphate values were highest at the stations east of Shetland and Orkney and somewhat lower along the north Scottish coast. Analysis of oxygen samples is not yet complete but unusually high values occurred at the bottom at YY 16b and in the 50 - 75m. strata at D 21d.

PLANKTON:

Plankton sampling was considerably restricted by unsuitable weather conditions. All the samples which were taken were small in bulk. Only six hauls were made with 1 metre nets. All of these contained specimens of Sagitta serratodentata which was present as far south as the Buchan Deep. Euchaeta hebes was taken at YY 16b, WW 16b, and at one station east of Shetland, where a specimen of Euphausia krohnii also occurred. Meganyctiphanes norvegica was present off the north Scottish coast, east of Shetland, and in the Buchan Deep, but was absent from both of the 1 metre collections from the Fair Isle passage.

The Hensen collections were of very small bulk, with Calanus the dominant constituent of all of them. Saithe were the most prominent of the fish eggs, being present in all collections and in considerable abundance in YY 16b and WW 16b. Plaice and cod eggs also occurred, in small numbers, at several stations. The greatest density of both occurred in YY 16b.

The Standard collections gave no evidence of any considerable phytoplankton population.

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A flow-metre was tested in the mouth of Hensen nets. Unfortunately weather conditions were never satisfactory for calibrating the instrument but it is clear that a secondary dial to record complete revolutions on the existing one would be necessary in the depths at which we normally work.

TRAWLING:

The new trawl which was put into operation on this trip would seem to be a marked improvement on previous models used on "SCOTIA". Several good catches of fish were made and there was a noteworthy reduction in the numbers of bottom invertebrates occurring in the catch.

Haddock. Ripe and spent haddock were practically absent in the catches and those which were taken were all males. Practically all the haddock captured at the north coast stations were maturing fish, while in the North Sea the proportion of immature fish increased from north to south. The largest catches of haddock were made in XX 17d and C 17d. The 1949 brood was poorly represented at the North Sea stations and virtually absent from the north Scottish coast.

Whiting. Whiting were very poorly represented in the catches from the north coast area. The largest catch of maturing fish was made in C 17d. The 1949 brood was taken only in the Buchan Deep and the Dog Hole, from the latter area in very considerable abundance.

Flat-fish. At XX 17d a haul of 50 large plaice was made. The majority of these were three-quarters ripe and ripe. Plaice occurred at several of the other stations but only in very small numbers. The only other catches in which flat-fish were of any importance were in XX 16d where 12 megrim occurred and in YY 15a where we took 22 witches.

Other Fish. Hake occurred in small numbers at most of the north coast stations; 12 herring were taken in YY 15a and 10 small Gadiculus argenteus in XX 16d.

A. SAVILLE.

28th February, 1950.

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