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CRUISE REPORT

F.R.S. "EXPLORER"

4th-19th September 1967

Narrative

"Explorer" sailed from Greenock at 1300 hours on 4th September and after fuelling proceeded to Rockall Bank. Weather conditions at the start of the trip were very poor and prevented any work being done on passage to Rockall Bank, which was reached on 6th September. The next 24 hours were spent working an echo-plankton grid to the north of the Bank and the trawling survey was commenced late on the 7th. Apart from a hydrographic transect of the Bank the trawling survey was continued until midnight on the 13th when a line of plankton and hydrographic stations was started to the Butt of Lewis. Stations were worked every 30 miles and the line was completed by the evening of the 15th; for the rest of the trip trawling was carried out along the 100 fathom depth contour to the north-west of Scotland from latitude 59°N to 60°30'N. This survey was completed early on 18th September and "Explorer" docked in Aberdeen at 1300 hours on Tuesday, 19th September.

Trawling

A total of 25 trawl hauls were completed on Rockall Bank (including two mid-water hauls). It was established that the best catches of blue whiting were taken by day and at depths in excess of 100 fathoms. Trawling over the 24 hour period also showed that blue whiting catches fell off about 1700-1800 hours, i.e. before dusk. Catching rates were slightly lower than on the previous two cruises, an average good catch of blue whiting was about 20 baskets per hour with a best haul of 33 baskets. Catches increased with depth but it was very difficult to fish in depths of over 150 fathoms without catching very large quantities of coral; on one occasion over 2 tons came up in the cod-end. However, the catch of other industrial fish species was higher than on previous cruises as there were a lot of Argentina silus and Gadiculus (best total industrial fish haul was 65 baskets). The mid-water trawl towed through fair traces yielded no catch.

Fourteen trawl hauls (including two mid-water hauls) were completed up the edge of the continental shelf from the Butt of Lewis extending the area sampled during cruise 2 to west of Shetland. Catching rates of industrial species were much lower (less than 5 baskets) than at Rockall, but, on two occasions when good ground in deeper water was obtained, catches of 15 baskets of blue whiting were made. Again two mid-water trawl hauls gave poor results, only a few Myctophids being taken in one of them.

The average catching rates for "commercial" and "industrial" species in the two areas are given in the attached table. "Commercial" species consisted mainly of haddock, ling and skate on Rockall, and cod and saithe to the north-west of Scotland. Industrial fish species other than blue whiting were dominated by silver smelts (Argentina sp.) and Gadiculus on Rockall and silver smelt and Norway pout (Trisopterus esmarkii) to the north-west of Scotland.

Plankton

A reduced plankton survey of Rockall Bank in September showed that the "neritic" crustacean plankton which characterised the previous cruises had gone and the samples contained mainly the "oceanic" species Salpa fusiformis and Arachnactis. This was also true of the line from Rockall to the Butt of Lewis.

Hydrography

Temperature and salinity observations were made at all standard depths on the transect of Rockall Bank and also on the line worked from Rockall to the Butt of Lewis, but owing to the restriction imposed by the low warp loading of the small hydro winch (250m warp) observations were only made to depths of 200m.

Echo-sounding

Owing to the breakdown of both the Marconi fish-graph and the Kelvin Hughes Humber echosounders during the cruise, the echo-sounding observations were made with the spare K & H MS28 sounder, used with a towed transducer. No large mid-water fish traces were recorded over the deep water.

D. F. S. RAITT
3rd November 1967

Trawl catching rates in $\frac{1}{2}$ cwt baskets

Fish Category	Depth					
	100-200m		200-300m		300-400m	
	Day	Night	Day	Night	Day	Night
	Rockall Bank					
Blue whiting	$\frac{1}{2}$	1	13	$4\frac{1}{2}$	14	3
Total industrial species	$5\frac{1}{2}$	4	20	9	49	9
Total commercial species	6	5	5	3	2	1
Grand Total	$11\frac{1}{2}$	9	25	12	51	10
No. of hauls	2	3	9	3	3	2
	100 fm contour 59°00'N to 60°30'N					
Blue whiting	7	0	5	0	-	0
Total industrial species	8	1	9	5	-	3
Total commercial species	1	5	6	3	-	3
Grand Total	9	6	15	8	-	6
No. of hauls	4	1	4	2	-	1