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FRV EXPLORER

Cruise 10/79

REPORT

6-26 October 1979

### Objectives

- 1 To investigate the operation of the GOV trawl.
- 2 To determine the engineering performance of a 600 hp semi-pelagic trawl.
- 3 To make detailed measurements of the performance of Stüberkrüb otterboards when used with a semi-pelagic trawl on the bottom and in mid-water.
- 4 To assess the fishing performance of the net for demersal round fish species and to check the handling performance of the gear during normal fishing operations.

### Narrative

EXPLORER sailed from Aberdeen at 1200 hours on Saturday 6 October. Calibration of the ship's speed log in Aberdeen Bay was abandoned after failure of shore-based instrumentation.

Because south easterly gales were forecast the ship proceeded to Shetland to work the sheltered area of Scalloway Deep. On completion of the trials A Corrigall was disembarked at Sullom Voe and R Ferro joined the ship.

EXPLORER sailed from Sullom Voe on 9 October to conduct instrumented engineering trials of the 600 hp semi-pelagic trawl. On 10 October a crew member was landed at Sullom Voe for medical attention.

By the evening of 16 October 14 hauls had been made in deep water to the north west of Shetland and in the Scalloway Deep. EXPLORER made for Lerwick for the half landing. After a 24 hour delay awaiting the arrival of an additional deck-hand, EXPLORER sailed at 1000 hours on 19 October to commence fishing trials. After two days fishing in the vicinity of Shetland and Fair Isle where few fish were found, EXPLORER sailed for commercial fishing grounds to the South. However, persistent south easterly gales for the following four days made it possible to work only in the Moray Firth. The cruise ended in Aberdeen at 0600 hours on 26 October.

## Results

1 Four hauls were completed successfully with the GOV trawl using three different wire systems. Headline heights of 5 metres were recorded and a catch of 60 baskets was taken in one haul.

No problems were encountered in handling the gear.

2 Thirteen hauls with comprehensive instrumentation were made in the first part of the cruise. Provisional values for the main parameters describing the performance of the 600 hp semi-pelagic trawl are tabled below.

Speed (knots)	3	4
Warp length (fathoms)	225	225
Warp length to depth ratio	2.2	3.9
Net drag (tons)	2.9	5.1
Net spread (fathoms)	10.4	11.1
Headline height (fathoms)	7.7	6.1
Sweep angle (degrees)	16	16

A full analysis of the data is now being undertaken.

3 There was insufficient time in the first half of the cruise when the instrumentation was available, to complete objective 3.

4 The objective of the second part of the cruise was to fish in the vicinity of commercial boats but this was possible only to a very limited extent because of the lack of fish on the grounds and the persistent poor weather which curtailed commercial fishing during this period. A further eleven hauls were made with the gear in firm ground contact for most of each haul. No very rough grounds were fished but it was encouraging that there was only a very small amount of damage, except on one haul in which the belly was torn on a seabed pinnacle. Occasionally the net was put very hard on the bottom such that the headline height reduced from 7 fathoms to 4 fathoms.

There was sound evidence that the net was in ground contact along the whole length of the footrope. The lower sweep was not in ground contact significantly. On most hauls, boulders, seaweed or other bottom living flora and fauna were found in the codend.

No problems were encountered with the handling of the gear.

On the few hauls when comparisons could be made the composition of the catch and the catch rates were similar to those on commercial vessels.

Seen in draft. J Ross OIC

R S T Ferro  
28 March 1980