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CRUISE REPORT

FRS "EXPLORER"

16-23 NOVEMBER 1974

OBJECTIVES:

1. To determine the optimum rigging and board size for the prototype new gear related to the semi-pelagic trawl (named the 'Delagic' trawl).

2. To determine the control when fishing just off the bottom and to modify and alter the net such that it sustains the least wear when fishing on the bottom.

3. To use and evaluate the new Mk V spreadmeter.

NARRATIVE:

"Explorer" sailed from Aberdeen at 11.00 hours on 16 November and proceeded to the Buchan Deeps. The gear was rigged on the way to the grounds and the trials commenced at 17.00 hours. The trials continued the following day in the Moray Firth (the South Deeps) and on till the 19th November.

Due to strong N.E. winds "Explorer" sailed overnight on the 19th November to Wide Wall Bay in the Orkney Islands where damage to the net was repaired. Trials were then continued in the afternoon, West of Hoy. After completing 13 hauls by the afternoon of the 22nd, "Explorer" sailed to arrive in Aberdeen at 06.30 hours on 23rd November.

Results

This cruise was orginally programmed to be from 5 to 21 November but was shortened due to engine trouble to the period 16th to 23rd November.

Nevertheless the limited results obtained partly fulfilled all of the objectives.

The rigging was modified during the first 3 hauls, so that the ground rope and the two weights on each of the bridles touched the bottom to an equal extent.

The smaller doors (2.9 m^2) were used in the first five hauls, the larger (4.3 m^2) for the rest of the hauls.

Following is a preliminary summary of the results obtained:-

	2.9 m^2 pelagic doors with modified rig (at 3 knots)	4.3 m^2 pelagic doors with modified rig (3 knots)
Board spread fms	20	24
Board depth fms	17.5	21.5
Headline depth fms	20	23
Netspread fms	11	17
Vertical net opening fms	8	8
Total gear drag tons	6.6	6.9

The trials were conducted on sea beds varying from mud, to sandy, to very rough grounds with pinnacles.

The controllability of the gear especially in rough grounds was good. This required the constant monitoring of the ship's echo sounder depth and the variation of ship's speed such that the foot rope followed the ground profile. It was also found that in good grounds (sandy or muddy) that the foot rope followed the ground profile without the change of ship's speed and damage to the net but that this was not the case where there were high pinnacles.

The larger doors (4.3 m^2) gave better spreads and easier controllability although the gear also functioned properly even with the smaller doors (2.9 m^2).

Since the 'Delagic' trawl does perform a function which neither the Demersal nor the Pelagic trawl could, further trials will be conducted in the new year to fully evaluate the fishing and engineering characteristics of the gear.

During the course of the trials it was found that the new Mk V spreadmeter required additional stability fins to improve alignment with the transponder.

S T R de SILVA
10 December 1974