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11MR78
(Pt II)

FRV "MARA"

CRUISE 11/78

REPORT

PART II 12-31 October 1978

Personnel		
	J Main	SSO In Charge
	C S Wardle	PSO
	G I Sangster	SO
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Objective

To examine the performance of a 100 hp semi-pelagic trawl with two sizes of belly panel and to determine its optimum rig to obtain firm ground contact along its length with a rope-rounded footrope.

To observe fish reaction to the rising belly panels of different mesh sizes to the netting at the cod end mouth.

Procedure

The scientific staff joined the Mara at Stornoway midday on the 12th October where the television and diving equipment was loaded and prepared for use with the divers towed underwater vehicle (TUVII).

Bad weather hampered diving operations for most of the cruise in Broad Bay but both objectives were completed within the time allocated.

One of the crew Mr P Flett became ill on passage to Broad Bay on the 13th October and the ship had to return to port whereupon an examination by a doctor had him removed from the ship to the Seamens Mission for observation. The ships crew went on long weekend leave on am 19th October returning pm on the 24th October.

The scientific staff disembarked at Stornoway on completion of the cruise on Monday afternoon 30th October and the ship sailed for Mallaig where arrangements had been made to unload the scientific equipment.

Results

A satisfactory net geometry was obtained with good ground contact with the 100 hp semi-pelagic trawl fitted with the 300mm mesh belly when the wing end weights were increased from 20lbs to 32lbs.

The net was towed over rough ground where boulders of 1 foot high were seen to pass between the footrope and fishing line with no damage to the net. Television video tape of this action have been retained for further study. With this adjustment in weight to the rig the net was successfully positioned at any depth required by adjustment of towing speed. The ground gear of the net making good contact with the sea bed at 2.5 knots and lifting off at 3.1 knots.

When the net was fitted with the 140 mm belly panel and was towed at the same speed it was found to be very heavy on the sea bed and could not be lifted even at 4 knots (depth 25m) warp 50 fathoms aft.

The belly panel was badly shaped with a very steep angle being formed just before the cod end with many flat fish being trapped and pressed against the netting.

Bad weather prevented further diving observations being made but by using the netsonde it was possible to observe the movement of the net relative to the sea bed.

By reducing the weights at the wing ends to 20 lbs and removing the chain from the centre of the footrope it was then possible to position the net with the 140 mm belly at any chosen depth by adjusting speed (2-4 knots).

Flat fish were caught with both sizes of meshes 140mm and 300mm in the belly panel but the clearance off the bottom was better with the 300mm mesh.

The data and video films are meantime being analysed.

Seen in draft - W Smith OIC

J MAIN
9.11.78