

IN CONFIDENCE -- Not to be quoted without reference to the Laboratory

CRUISE REPORT

FRV "MARA"

21 MARCH - 14 APRIL 1977

<u>Personnel:</u>	S T R de Silva	HSO (in charge)
	E S Strange	HSO (p.t. 21 March - 8 April)
	J A Morrison	HSO (p.t. 4-8 April)
	W K T Gray	PTOIV (p.t. 21 March - 8 April)
	Diving and TV Support	
	J Main	HSO (dive marshal)
	G I Sangster	SO
	C W Shand	SO
	J H B Robertson	ASO
	A J Tough	PTO IV

Objectives:

- (1) To observe the performance and the tailoring of the 200 and 100 HP Delagic trawl using the towed sledge and TV Systems.
- (2) To investigate the influence of fish behaviour on the catching performance of the gear.
- (3) To observe the performance of the gear when fished in grounds varying from smooth to rough.

Narrative:

The gear was loaded on "Mara" in Buckie on Friday, 18 March. On the Monday the scientific staff made ready the equipment at the Portnaguran shore base. "Mara" steamed to Stornoway on Tuesday the 22 March when the gear was rigged and the TV, wet vehicle and instruments were installed on board.

Gear trials commenced on the next day in Broadbay using the 200 HP Delagic trawl. Trials continued till Friday 25 March. On the Saturday "Mara", at the request of the Fishery Office and others, conducted a TV search with the towed vehicle for the bodies of the crew of the "Ivy Rose" which had been lost near the mouth of the harbour on the previous day.

The gear trials continued on the following week until 30 March when persisting bad weather prevented further work. Work resumed on 1 April, continuing during the week and on Saturday mornings till the evening of 10 April. "Mara" then set sail for Buckie and the scientific staff returned to Aberdeen on 11 April.

Results:

The 200 HP version of the Delagic trawl was used during the first week of the trials. Alterations were made to the gear during this period.

The 100 HP gear was tested on sandy grounds and the effect of rig variations were investigated. Although there were few fish in the area, it was observed that flat fish were escaping through the large (600 mm) and steep rising belly meshes. The 600 mm mesh belly panel was then replaced by one of 300 mm but no fish reacting to the smaller mesh belly were observed.

The rounded ground rope was replaced with a light rubber footrope and then a plastic bobbin rig with rubber legs. Although these rigs were used hard on rough grounds, they fished well without any damage. This capability will extend the versatility of the gear for use on rough grounds. Alterations were made during the course of the trials to the rigging and length of the ground rope to ensure proper contact with the bottom.

A 16 mm mesh codend and a 11 mm mesh cover was attached to the 100 hp Delagic gear. The codend opened out well even when it contained no fish, and in this condition, the cover was observed to lie well clear of the codend. A dye pack was inserted into the fore portion of the codend and the resulting dye stream illustrated considerable water flow through both codend and cover as confirmed by open codend and cover meshes. The behaviour of a small quantity of sprats (about 1 basket) caught in the codend and in the cover was observed.

S T R de Silva
26 May 1977

Seen in draft -- W F Mair