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CRUISE REPORT

FRV Mara

3 - 14 May 1976

Staff:		
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Aims

To examine and make video tape records of the reaction of fish to fishing gear components.

Results

An experimental rig based on the seine net principle was developed to present the basic gear stimuli to fish. The seine net ropes were linked via the dan leno chain to the dan leno hoop to two metre wire vertical stays to the wing composed of five parallel ropes (30 m), linked via a vertical stay (4 m) to a floating headline (6 m) and heavy footrope (6 m). After adjustment of buoyancy this gear fished just as the seine net and brought large numbers of dabs and plaice and sandeels into the mouth region where reaction was recorded using a television camera in the manner developed with 'Mara', May 23 - 26 1975. Twenty-two hauls of the experimental gears were made in the $7\frac{1}{2}$ workable days; eight hauls were used to develop the gear for use with and without diverter boards, seven hauls recording different fish reactions were made during the second week with television equipment aboard the 'Maid' (6 m). A simple gear using two seine net ropes with dan leno and linked by a footrope or chain was also made to fish well and will be tested in July/August cruise on round fish. The diverters were found to work with the simple rope wings but as with the seine net, the seine net ropes lift and the whole gear rises from the bottom if speed is increased to more than $1\frac{1}{2}$ knots too early in the haul. A TV film was made of one diverter board showing the flow patterns as the board aspect changed, three hauls were recorded showing the change in fish reaction to rope as speed and angle change, three hauls were recorded showing the effect of a heavy chain replacing the footrope. The TV films included typical reactions of flatfish, sandeels and small squid. 400 ft of cine film was made of typical flatfish reactions. Sound recordings were made on the seine net fishing process for the seine net film.

The new version of a divers' two man towed sledge (or wet shelter) was tested and found to be precisely controlled at any desired depth and could be stabilised and steered just above the bottom at speeds up to $3\frac{1}{2}$ knots. In order to observe the behaviour of fish near trawl boards a large degree of stable lateral displacement control will be required and some basic measurements of lateral movement demonstrated displacement of up to 20 metres when the sledge was 150 m behind the towing vessel.

A short piece of cine film was taken of the hydrographic drogue for inclusion in the Laboratory film.

C S Wardle
3 August 1976

Seen in draft - W T Mair