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Cruise Report

FRV 'Mara'

29th November - 23rd December 1976

Objectives

1. To instrument and observe the performance of the Lossie (J) trawl (200HP) relative to factors arising from the recent commercial trials on MV Armasdale.
2. To substitute side panels of varying size and shape so as to study the effect of a shorter headline and groundrope on the gears' performance.
3. To compare at full scale the results obtained from the model tests in the WFA Flume tank.

Narrative

'Mara' was loaded at Buckie on the afternoon of Monday 29th November. Much of the first week was taken up with the installation of the hydraulic winch, required to handle the towed sledge; testing the Divers distance measuring gun and trials with the towed sledge which required adjustments to its weight and floatation before becoming operational.

Trawling commenced on Friday 3rd December and continued without interruption till 21st December when adverse weather conditions stopped work. Bad weather was maintained till 23rd December when the ship was off-loaded and the gear returned to Aberdeen.

Trawl hauls were confined to one per day during the cruise. This in consideration for the Diving team working in extremely cold weather conditions, but each haul was protracted (saving shooting and hauling time) so as to best utilize the light available and the diving time.

Results

The Lossie J trawl was instrumented with (a) the side panel buttoned down to the footrope to the toe end and (b) with the side panels flying back to the first bunt bobbins (as per 'Arnasdale').

The 'flying' panel condition made little or no difference to the geometry of the trawl mouth. Headline heights of 12° - 18° and wing end spreads of 35° - 40° were recorded over a range of speeds from 2½ - 3½ knots on several hauls with both gears. The advantages to be gained by reducing the risk of ground damage would therefore require to be weighed against the additional avenue of escape presented to fish within the net mouth area.

Similarly, shortening the headline and groundrope by substituting side panels of varying size made little difference to headline height but reduced wing-end spread in the range of 5° - 10°.

All steel cambered boards (1.7m x 0.89m) were used throughout the trials. These were adjusted so as to give a sweep lead-in angle likely to maximise the fish herding effect from the turbulence and mud clouds created by the trawl boards.

When the results have been analysed a comparison will be made with those obtained when the model net was tested in the WFA Flume tank.

A Corrigan
21.2.77

Seen in draft: W T Mair