

R1/6

AMM

In Confidence - Not to be quoted without reference to the Laboratory 9CR80

FRV CLUPEA

Cruise 9/80

REPORT

22 September - 3 October 1980

Objectives

- 1 To assess the fishing performance of the Laboratory's 600 hp semi-pelagic trawl and the WFA rope trawl when fishing for mackerel both by day and by night.
- 2 To make observations using remote controlled television, of the two gears to check on specific design features.
- 3 To make observations of fish reaction to the gears.

Narrative

CLUPEA sailed for Loch Eriboll from Aberdeen at 1400 on 22 September. The WFA rope trawl was used in conjunction with the remote controlled vehicle (RCV) in this area and in the vicinity of Gruinard Bay west of Ullapool until Friday 26 September when the gear was exchanged for the Laboratory's 600 hp semi-pelagic trawl. The weekend was spent in Ullapool.

The trials continued with the new trawl the following week in the Raasay and Inner Sounds and in Loch ~~Canon~~^{Carron}. Work finished on Thursday evening when CLUPEA sailed to Kyle of Lochalsh to unload gear required for the EXPLORER cruise starting the following day.

Results

1 General

Mackerel were to be found mainly in an area from the Point of Stoer to the southern end of Raasay. During daylight they were hard on the seabed in small clumps although occasionally larger shoals were seen extending some way off the seabed. The fish were usually in water depths of less than 20 fathoms (37 metres). Considerable quantities of small mackerel (less than 25 cm) were found at depths of 30 fathoms (55 metres) and below in Loch ~~Canon~~^{Carron} and Loch Kishorn. The remote controlled vehicle was used successfully on every haul although underwater visibility and the size of the gears were such that the low light TV camera could seldom 'see' across the mouth of the gear either from side to side or from top to bottom. The RCV was used only during daylight hours for technical reasons.

Poor weather restricted the areas which could be fished on three days.

Because of the short time available for each net, it was decided to concentrate initially on the second objective - to obtain film of the nets. Considering the

conditions some good film was obtained. The first and third objectives were not achieved because insufficient fish were encountered in areas where the RCV could be used.

2 Gear

Little difficulty was experienced in shooting the rope trawl and the TV film confirmed that the ropes were never seriously fouled. Some twisting up of the sharks teeth where the netting joined the ropes was observed, however. The rope trawl was spread well by the 4.5 m² doors but the headline height was found to be very low. Considerably more weight would be required to open the net fully (up to 1000 kg a side) although handling would then become a major problem on a side trawler. The 26 inch power block was found to reduce greatly the time and effort required for hauling both nets and it is clear that more use could be made of this facility for other applications in addition to pelagic trawling.

It was difficult to see the ropes on the TV screen when there was insufficient contrast between them and the background. Ropes made from contrasting strands of black and white would be more visible both to fish and to the observers under all light conditions.

The Laboratory's latest design of 600 hp semi-pelagic trawl performed satisfactorily and film was obtained of the net with and without the 36 mm small mesh codend.

Both the rope trawl and the semi-pelagic trawl could be towed at over four knots as measured by a propeller log towed from the ship.

R S T Ferro

29 October 1980

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