

R1/10

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

FRV 'Goldseeker'

Cruise 7/81

Report

7GR81

23 June to 16 July

Objective

To make direct observations of round fish in the area from the trawl boards back to the mouth of the net.

To observe the behaviour of small trawl doors designed for the main purpose of creating sand clouds in advance of the fishing gear.

Narrative

The ship arrived at Gairloch Pier at 1730 hrs on Thursday 25 June but due to fishing vessels landing their catches loading of scientific equipment was postponed until Friday.

Friday was spent rigging the trawl, diving and television equipment. The opportunity was also taken to fuel and water the ship and make arrangements for pay and stores.

Starting on Monday 30 June the ship worked daily from Gairloch for the next two weeks in the Melvaig area and only two days were lost due to bad weather. However poor weather prevailed during the whole period and occasionally the ship had to return to port due to increasing wind or swell.

The weekends were spent at Gairloch Pier. 'Goldseeker' left for Buckie on Friday 10 July at 1300 hrs after unloading the trawl and scientific gear.

Results

Few roundfish were seen on the grounds off Melvaig in suitable diving depths and from information from the local fishermen this was the case for the whole area. However a number of observations were made of codling swimming directly in front of the bobbin gear and escaping under the gear between the spacers.

Sandeels were seen being steered in along the whole length of the sweep wires from the doors to the wing end of the net. These fish moved in at right angles to the sweep wire and turned forward away from the net when reaching the centre of the gear. Some observations showed sandeels between the doors swimming directly away from the net without any visual stimulus from either other fish or trawl gear. These observations were made when the underwater vehicle was swinging from one door to the other and did not appear to be influenced by the vehicle. Observations were also made and recorded of large sandeels (36cm) catching and eating small ones in the mouth of the trawl.

Queens were also seen reacting in front of the gear and passing over the footrope and on occasions out between the bridles.

The new BT 126D, 16 fathom Prawn Trawl with a 22 mm mesh size, rigged with 15 fathom sweeps and 20 feet bridles was observed, filmed and measured. It had a good clean shape with few stress points whilst towing at a speed of 1.9 knots. The headline height was $3\frac{1}{2}$ feet with a wing end spread of 34 feet and a wing end height of 1 foot.

The net was rigged to tow on the fishing line which was continually 2 to 3 inches off the bottom with the grass rope just touching the seabed in places. It was recommended that this gear should be changed to tow on a light rubber disc footrope for better ground contact.

TV film was obtained of the whole gear including coming fast on a large boulder. On this occasion the divers were able to leave the vehicle swim over and clear the gear allowing the haul to continue.

The new isolated sand cloud doors which would be towed ahead and outside the trawl boards thus increasing the swept area worked well. These extra doors produced a good sand cloud trail and were stable even though they had no attachments behind them. These observations were made using free diving techniques. After adjustments to floatation and weights these doors give a good spread, were stable, had good ground contact along the keel and produced a large sand cloud trail.

~~The video tapes are now being analysed and our edited version showing all the important points will be compiled.~~

J Main

Seen in draft W W Reid OIC 'Goldseeker'