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Charter Vessel 'Aries' BCK126

SM

REPORT

11-31 August 1985

Personnel

J Main	SSO
G Sangster	HSO
W Mojsiewicz	SO
F Cruickshank	PTO IV
E Coroon	Craftsmen

Objectives

1. To catch escaping fish from codends using diving techniques and hold them in underwater cages to assess the survival rate.
2. To follow fish located by echosounder and observe their reactions at the approach of the trawl gear.
3. To compare the sandclouds between two trawl boards one of which was fitted with a spoiler.
4. To observe and film an experimental gill net fitted with very prominent netting at the headline.

Narrative

The 'Aries' arrived at Gairloch on 12 August where the trawl and diving gear was prepared and loaded onboard. The vessel worked daily from Gairloch with no time lost due to weather conditions.

The areas worked were off Longa Island and Melvaig in depths of water suitable for diving operations. One run was made to Staffen Bay, Skye in search of fish marks on suitable tows for diving but none were found.

Results

1. Two fish cages were set up at the north end of the Melvaig tow in 24 metres of water. The third cage was set up in Gairloch in 21 metres where suitable sized handline fish could be caught.

   The fish were examined daily, fed and counted before proceding with the other objectives of the cruise. Unfortunately after a storm on 25 August the two cages on the Melvaig tow were turned over and damaged due to the deep swell resulting in the loss of all the fish. The cage with the handline fish survived and were still in excellent condition when the exercise ended on 31 August. Our observations on cage A, (the fish which had escaped from the codend) showed scale damage along the sides and on the tail area. These damaged areas all appeared slowly to get worse and each day small numbers of fish were found dead and removed.

   Cage B contained fish which had been taken from inside the codend. These were in less damaged condition but were starting to show deterioration on

any damaged areas; none of these fish died up to the time of the storm. No television recordings could be made due to a failure in the compact video recorder which required a major repair. Still photographs were taken showing the cages and condition of the fish.

One cage was repaired and set up again on the Melvaig tow and fish which had escaped through the codend were re-established and were feeding. This cage and the control cage are still in position and will be examined on 16 September.

Measurements were made of the maximum girths of fish which had been retained within the codend and of those which had escaped into a small mesh cover.

2. No fish marks were seen on the echo sounder in shallow water on the Melvaig tow. Dives were made to see how feasible it would be to make observations. Divers arrived off the seabed some 120 metres ahead of the trawl boards and remained 7 to 10m above it to follow sandeels all the way to the footrope of the trawl.

The behaviour of the sandeels when first seen was to mill around in a large circle equa-distant between the advancing warps. These sandeels then broke into two groups; one to move at right angles to the advancing trawl and out under the starboard warp some 100 to 120 metres ahead of the unseen trawl board. The other group remained equa-distant between the warps and moved in a thin line directly towards the trawl between the boards (spread 32m) and turned to swim with the trawl when it became visible.

Most of the haddock were found in water too deep for free diving observations but an attempt on a big mark seen on the echo sounder was made off Longa Island in 38m of water. With 200m of warp aft the divers descended into a position above the seabed 120m ahead of the doors and between the warps where haddock 30 to 50cms long and 50 to 60 in numbers were seen milling in the same behaviour as the sandeels. Unfortunately at this depth the water was very dark and it was impossible to follow the haddock or give the direction in which they set off. The water clarity was in excess of 25 metres at the start of the cruise but during the fish observations it had reduced to 10 to 15 metres.

3. Observations were made on a double slotted set of Bison boards with a sandcloud spoiler added to one board for direct comparison. The spoiler had no noticeable effect in increasing the sandcloud. The observations on these boards were recorded on video tape, some interesting action shots of these boards passing over rough ground were obtained.

4. For SFIA a multi-mono gill net with additional netting added above the floats was observed off Gairloch and these have been recorded on both cine and still film. With no tidal flow the headline height was 3 metres in the centre and with a slight tide, approximately ¼ knot, the ends of the net came down to 1 metre and just under 3 metres in the centre. The footrope was tight on the bottom at all times and the additional netting remained upright.

J Main
23 October 1985