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Charter fishing vessel *Fairway II* PD603

Charter Cruise No 1194H

REPORT

15 - 30 June 1994

Personnel

J H B Robertson	HSO (in charge)
R J Kynoch	SO
P J Barkel	PTO

Objectives

1. To measure the selectivity of 100 and 110 mm mesh cod-ends with and without strengthening bags, using hooped small mesh covers.
2. To collect information on landings and discards as part of a study of the economic impact of mesh size on vessel operation.

Out turn days per project: 15 days IBD1

Narrative

Access to *Fairway* on the 14th allowed fitting of the television and computer systems to begin. Modifications to the fish handling equipment were also made. Fitting continued on the 15th. Work at sea began on the 16th and continued through to the 29th with half day breaks on the 23rd for a funeral and the 24th due to bad weather. Grounds fished in ICES area IVa included Stirling, Aberdeen, Turbot and Klondyke Banks and between eight to ten miles east and northeast of Peterhead. The cruise ended at Peterhead on 30 June.

Results

31 hauls were achieved of which six hauls were invalid due to gear damage. Main species captured were haddock and whiting of which there was a steady supply. Incidental catches were negligible except on some hauls when up to one third of the catch by volume in the small mesh cover consisted of herring. Results were obtained for the 100 mm cod-ends with and without strengthening bags and for the 110 mm cod-end without a strengthening bag. Trawl extension length in this class of trawler tends to be between 15 to 20 m and in this case was 18 m. Selection ogives were generated for 11 hauls without lifter and eight hauls with lifter. Comparison of the two 100 mm mesh cases suggested that there was no significant difference of 50% length for haddock (28.12 cm with strengthening bag and 28.17 cm without) taking account of between haul variability. The 110 mm mesh cod-end without strengthening bag demonstrated a 30.04 cm 50% length (5 hauls). The result for whiting is less clear and further analysis is required in the Laboratory. The results of the study on economic impact of mesh size will be analysed in the Laboratory.

Trawl and experimental cod-ends and small mesh cover were observed with underwater television, deployed on one haul near the start of the trip. The joint of the small mesh skirt to the extension piece caused a distortion of the extension by making a greater diameter of the extension netting than normal. It is difficult to alter this effect which is caused by the drag of the cover. In itself there appeared to be no change in fish escape patterns at the joint but the cod-end shape may be affected. A changed shape can alter the mesh openings which can in turn affect selection characteristics from true commercial fishing conditions.

Further, flow between the cover and cod-end appears to be low. Haddock, whiting and herring after escape from the cod-end, often swam forward to the front of the cover.

The miniature TV system was deployed on a further five hauls to investigate the problems discussed above. Excellent observations were made of all the species in the extension, cod-ends and cover. On some of the hauls fish were observed to swim forward out of the cod-end and along the extension. It is possible that the cover in combination with a long extension resulted in reduced flow through the cod-end. This may also change selection characteristics. Further analysis of the film will be made in the Laboratory.

J H B Robertson

29 July 1994