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REPORT

Cruise 1108H - Charter Fishing Vessel Genesis (BF505)

5-15 December 2008

Personnel

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D Bova 5-7 December

Out-turn Days per Project: MF06Q – 11 Days

Objectives

1. To assess the performance of large mesh side netting panels inserted into the edges of the belly panel of a commercial whitefish trawl in reducing cod by-catches.
2. To carry out underwater observation of the rigging of large mesh side panels and observe cod reactions when encountering them using self-recording CCD cameras.

Narrative

Staff and equipment joined Genesis at MacDuff on 5 December 2008. Staff commenced rigging the 2 x 800mm diamond mesh side panels into one of the vessels whitefish trawls (Test net) alongside MacDuff harbour. The overall dimensions of each side panel were 16 meshes deep with 8 meshes across the leading edge tapering down to 6 meshes across the rear edge. The panels were inserted into the sides of the trawls belly sheet and mended into the rear of the first tearing strip directly behind the fishingline (Figure 1). The tearing strips were constructed from 6mm double PE twine with an approximate mesh side of 140mm and a belly sheet mesh size of 120mm constructed from single 4mm PE twine. To enable the panels to obtain the correct hanging ratio/mesh opening when inserted into the trawl they were rigged with "shark's teeth", triangular sections of 160mm netting at each end (Figure 2). The inside edge of each panel was cut down a side knot and the outside edge closest to the selvedge tapered. Down the sides they were laced into the trawl with 0.2m of slack incorporated to ensure that when fishing most of the strain was taken up by the surrounding 120mm belly netting. During the trials both trawls were fished with 80mm diamond mesh codends constructed from 4mm single compact PE twine. During the fishing hauls both trawls were fished with tickler chains.

The rigging of the panels were completed during 6 December and the vessel sailed to fishing grounds at Copinsay to the east of the Orkney Islands. The vessel arrived on station the following morning and commenced TV tows using the self recording ccd cameras to assess the rigging of each side panel. During the evening of 7 December the vessel sailed to the Scalloway Deepes west of the Shetland Islands and completed one TV tow during the morning of 8 December. However, due to a westerly gale fishing operations had to be suspended and the vessel sailed to Scalloway. Due to a strengthening westerly gale the decision was made to sail on the evening of 9 December to fishing grounds in the North Sea

approximately 90 nmiles NE of Fraserburgh called the NE Holes. The vessel arrived the next morning and commenced selectivity tows until the evening of 11 December when a south easterly gale forced the vessel to suspend fishing operations and steam to Fraserburgh arriving on 12 December. The vessel sailed from Fraserburgh on 14 December to the same grounds at the NE Holes but had to turn back due to continued poor weather conditions and return to Fraserburgh. The cruise ended a day early on 15 December with staff, equipment and fishing gear returning to Aberdeen.

Results

During rigging the use of 160mm diamond mesh “shark’s teeth” at the ends of each side panel helped simplified installation. However, lacing the sides of each panel did prove problematic due to the surrounding 120mm belly netting have been stretched and patched. It was noted that mesh count between the port and starboard sides of the 120mm belly netting was approximately 2 meshes different. However, when observed it was found that both panels were rigged correctly with the meshes maintaining a good opening. Furthermore it was noted that the sand cloud from the tickler chain and ground gear only obscured the bosom section of the belly sheet netting and not the side netting containing the panels. No cod, monkfish or megrim were observed during these observations and therefore no conclusions can be drawn with regard their behaviour when encountering these panels.

Due to the poor weather conditions throughout the trials it was not possible to conduct any fishing tows on the monkfish/megrim grounds to the west of the Shetland Islands. Therefore all 6 fish tows were carried out on grounds at the NE Holes in the North Sea using tickler chains. During all hauls there were sufficient haddock; whiting and just enough cod were obtained. Other species sampled were monkfish, megrim, lemon sole and witch but these were encountered in limited numbers. Preliminary results suggests there was no evidence of haddock and whiting escaping through the side panels, but strong evidence of size selection occurring for cod below approximately 55cm. Through there were insufficient data to obtain results for the other species encountered the test net retained 25 monkfish and the control 77, suggesting escapes were occurring. A fuller statistical analysis will be carried out in the laboratory and the results compared to those collected during cruise 1308H.

R Kynoch
12 February 2009.

Figure 1: Rigging of the side panels into the trawls belly sheet.

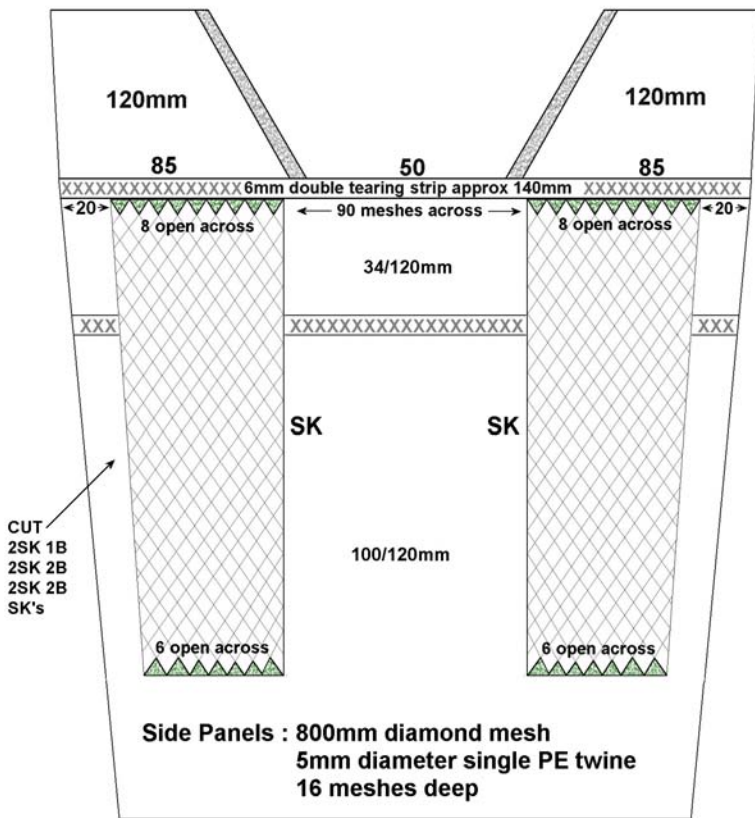


Figure 2: The “shark’s teeth” constructed from 160mm netting.

