753

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Charter Fishing Vessel "Golden West" FR 363

REPORT

Charter Cruise No 0693H

5 January - 8 February (extended to 26 February) 1994

Personnel

J H B Robertson	HSO (in charge)
I Gibb	SO (14-18 Feb)
R J Kynoch	SO (5 Jan-11Feb, 21-25 Feb)
P J Barkel	PTO (5-19 Jan)

Objective

To gather cod-end selectivity measurements (L50, selection factor and range) for whiting, haddock and cod on a single boat trawl for a range of mesh sizes (ie 90,95,100,105,110 and 120 mm). Two codends will be made at each mesh size, with different numbers of meshes round the circumference. The hooped small mesh cod-end cover method will be used. Underwater television will be used to determine that the codend meshes remain unimpeded by the small mesh cover.

Out-turn days per project: 25; IBD1

Narrative

The cruise started at Fraserburgh on 5 January 1994. The work was dominated by bad weather and as a consequence of cancelled periods the finish date was extended to 26 February. Fishing took place during moderate periods of weather to ensure the safety of the vessel crew and scientific staff during handling of the hooped cover and working on the fish deck. Commercial fishing grounds in the Buchan sea area, off the north east coast of Scotland (ICES Area IVa) were used.

Results

27 hauls ranging from 3.5 to 5 hours duration, were obtained. All catches were almost entirely of haddock (size range 12 to 54 cm - dominant 1 (14-18 cm) and 2 (20-30 cm) year classes) with occasional small amounts of large cod and medium flatfish (plaice and lemon sole) and *Nephrops*. Weather and time constraints allowed only data for the cod-ends with higher numbers of meshes on the circumference to be collected. Selection parameters for six different mesh sizes are presented in Table 1. The nominal mesh sizes and actual mesh sizes as taken with an ICES gauge are given in the Table. These are preliminary results based upon analysis using pooled data from all hauls for each mesh size. Further analysis in the Laboratory will be made taking account of between-haul variability. This may alter the selection parameters presented here. The results should therefore be used only as indicators of the likely range of L50s for the mesh sizes tested.

Table 2 shows the percentage of juveniles (ie; 29 cm and below) and of marketable haddock (ie; 30 cm and above) which escaped from each of the cod-ends on each haul.

Weather conditions during the first two weeks did not allow safe use of underwater television equipment and no observations of the gear were made.

J H B Robertson

10 March 1994

TABLE 1: Result for haddock (Golden West FR 363 Jan-Feb 1994)

Actual Mesh Size (mm)	Nominal Mesh Size (mm)	No of Combined Hauls	50% Length (cm)	Selection		Total number		No in S.R.	
				factor	range (cm)	large	small	large	small
88.2	90	3	29.42	3.27	5.35	2324	20044	635	1112
94.0	95	3	31.21	3.28	11.62	1935	9309	425	975
98.4	100	5	30.27	3.03	6.77	5659	26676	2367	4745
101.8	105	4	31.50	3.00	3.91	1324	24211	339	266
108.0	110	3	34.61	3.15	4.79	436	23798	139	137
118.0	120	4	39.14	3.26	5.65	350	22069	107	196

NOTE: 1) SR = selection range
2) Twine diameter in all cases was 4 mm. Double braided twine was used in all cod-ends. Cod-end length was 6 m.
3) Straight extension length was 10 m.

TABLE 2: Result for haddock (Golden West FR 363 Jan-Feb1994)

Haul No	Mesh Size (mm)	Lost Marketable (30cm and above) %	Escaped juvenile (29cm and below) %
12	90	0	74 +
13	90	28	93
14	90	15	95
15	95	0	45 *
16	95	0	91 +
17	95	89	74 +
3	100	39	99
4	100	23	96
5	100	10	89
26	100	5	67 *
27	100	21	97
18	105	29	99
19	105	20	95
20	105	33	99
21	105	39	99
8	110	49	99
9	110	70	99
10	110	46	99
22	120	67	99
23	120	74	99
24	120	77	99
25	120	78	99

* = twist in extension on hauling so it is likely that little selection took place during the haul
+ = few haddock over 30 cm were captured.