

R1/6

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FRV *Clupea*

CRUISE 1291C

REPORT

26 August-6 September 1991

Personnel

J Main	SSO (in charge)
R D Galbraith	HSO
G Sangster	HSO
P J Barkel	PTO
T Moth-Poulsen	DIFTA Hirtshals

Objectives

Execution of EC Project TE 166 DK UK in collaboration with DIFTA (Hirtshals):

1. To use the RCTV to observe the new pout separator trawls and confirm that they are correctly constructed and rigged.
2. To use the RCTV to study fish behaviour within the trawls.
3. To carry out fishing trials, on suitable fishing grounds, with the nets to assess their efficiency for separating pout from protected species.

Narrative

The scientific staff joined *Clupea* in Aberdeen on 26 August where they loaded and fitted the new 900 m underwater television cable and prepared the RCTV and trawl for operation.

The vessel sailed at 1530 and proceeded to the Fladen fishing grounds. On 27 August the RCTV was tested for operating in 150 m of water using the new cable. It was found that the length counter on the winch did not work and that 20-280 mm floats had to be added to keep the vehicle off the sea bed. With these additional floats it made the vehicle difficult to manoeuvre around the trawl. Later it was found that additional floats had also to be positioned on the cable itself to keep it off the sea bed.

At the end of the first haul the RCTV was caught in the port bridle and the television picture lost. *Clupea* returned to Fraserburgh arriving at 0600 on 28 August and the cable was repaired and tested before midnight on the same day.

Clupea sailed at 0500 on 29 August and towed the trawl in shallow water off Fraserburgh. The separating panel in the trawl was set 1.5 m above the footrope and this gave good separation of haddock and whiting into the top level and flatfish into the lower level. The tow was too short to use the RCTV for direct observation.

Clupea then sailed for pout grounds some 100-130 miles off Peterhead where the major part of the cruise was conducted. Seven hauls were completed using the stepped back separating panel and 16 hauls with the panel directly above the footrope.

Good weather prevailed during the major part of the cruise allowing all the objectives to be met.

At the end of the cruise, in an attempt to find more large haddock and whiting, the vessel moved to a position off Tod Head but the television winch failed after shooting and the RCTV and the trawl had to be recovered after only 15 minutes.

The *Clupea* returned to Aberdeen and docked on the evening of 5 September. The trawls and scientific gear were off loaded and returned to the Laboratory on 6 September.

Results

The experimental trawls were each fitted with a modified separator panel, one with the panel stepped back behind the footrope, the other with the panel directly over the footrope. Television observations showed that these designs behaved as planned giving a greater cover of the bosom area of the footrope. The belly of the trawl still requires some modification; meshes were too square and distortions were observed in the area behind the footrope. This is fully recorded on video tape.

A variety of panel heights was tried in an attempt to separate the pout from other commercially protected species.

Effort was concentrated on directing pout into the lower cod-end and, as can be seen from the table attached, large percentages of small (6-16 cm) haddock and whiting also entered the lower cod-end so it would appear that a reappraisal of separating techniques is required. No significant differences were found by adjusting the panel height by use of the strops which ranged between 1.25 m and 1.8 m.

The video recordings and measurements are being fully analysed at the Laboratory.

J Main
8 November 1991

Table I

Haul	Top	Bottom	Top	Bottom	Top	Bottom	
	Haddock %		Whiting %		Pout %		
							<u>Panel behind footrope</u>
160	87	12	60	40	81	19	no strops
161	99	1	67	33	88	12	no strops
162	59	41	71	29	58	42	no strops
164	78	22	89	11	87	13	1.25 m strops
165	60	40	75	25	78	22	1.25 m strops
166	64	36	90	10	78	22	1.8 m strops
167	32	68	51	49	72	28	1.8 m strops
	68	32	72	28	77	23	average % 160-166
							<u>Panel directly above footrope</u>
170	71	29	31	69	64	36	1.8 m strops
171	32	68	28	72	23	77	1.8 m strops
173	22	78	39	61	25	75	1.8 m strops
175	65	35	65	35	95	5	1.5 m strops
176	2	98	17	83	28	72	1.5 m strops
177	12	88	16	84	11	89	1.5 m strops
178	49	51	14	86	67	33	1.5 m strops
179	38	62	15	85	52	48	1.5 m strops
180	20	80	10	90	65	35	1.5 m strops
181	20	80	12	88	44	56	1.5 m strops
182	18	82	16	84	66	34	1.5 m strops
183	12	88	5	95	45	55	1.5 m strops
184	27	73	9	91	25	75	1.5 m strops
185	15	85	14	86	36	64	1.5 m strops
186	26	74	22	78	41	59	1.2 m strops
187	29	71	11	89	28	72	1.2 m strops
	34	66	20	80	45	55	average % 170-187

Note. From Haul 171 onwards a 280 mm plastic float was strung onto each quarter strop to lift the separating panel fishing line.