

P17/6

AMM

In Confidence - Not to be quoted without prior reference to the Laboratory

FRV "Clupea"

9CR82

Cruise 9/82

REPORT

20 September - 14 October 1982

Objectives

- 1 To investigate the selection of fish by size/species using multi level trawls with alternative arrangements of internal panels and mesh sizes.
- 2 To examine the influence on fishing performance of fishing square extensions in both large and small mesh.
- 3 To observe and record the fishing process using the Remote Controlled Television Vehicle.

Narrative

"Clupea" left Aberdeen on the afternoon of 20 September with all fishing gear and trials equipment loaded, apart from the television camera which was to be forwarded to Kirkwall by air. Gale force winds compelled the vessel to anchor off Banff overnight and due to continuing bad weather "Clupea" did not reach Kirkwall until the evening of 21 September. The television camera arrived in Kirkwall on 22 September and with the weather having moderated the RCTV system was assembled and tested in Inganess Bay. Three hauls were carried out off Copinsay on 23 September and a further haul on 24 September before deteriorating weather conditions necessitated a return to port.

Two hauls were made off Copinsay on 27 September but bad weather prevented any work on 28 September. One haul was carried out in North Sound on 29 September but fishing was very poor in this area and "Clupea" returned to Copinsay to make a further three hauls on 30 September. Gale force winds again ruled out any work on 1 October.

Three hauls were made in the Copinsay area on 4 October and one on 5 October before bad weather again stopped work until 9 October, when a further two hauls were carried out in the same area.

One more haul was made off Copinsay on 11 October but with the unfavourable weather conditions persisting "Clupea" steamed south to the Moray Firth on 12 October and anchored overnight in Spey Bay. With no work possible on 13 October "Clupea" entered Buckie where fishing gear, RCTV and other equipment were unloaded for return to Aberdeen.

Results

Objective 1 - Two modified versions of BT150B were used for these trials. In addition to the rope array set over the two lower openings each of the nets had a small mesh inclined panel set over the upper opening, one in 150 mm mesh, the other in 100 mm mesh. The predominant species taken was haddock, and much smaller numbers of whiting were also present. Total number of haddock sampled was 7555, whiting 634, giving a ratio of 12 to one. The proportion of haddock and whiting in each codend is shown below:-

BT150B with 150 mm mesh panel

	Haddock	Whiting
Top	68%	38%
Middle	29%	56%
Bottom	3%	6%

BT150B with 100 mm mesh panel

	Haddock	Whiting
Top	46%	39%
Middle	48%	56%
Bottom	6%	5%

The panel with the smaller mesh size deflected a greater proportion of haddock into the lower codends whereas the proportions for whiting remained more or less constant. There was no evidence of any size selection taking place as fish passed through these panels, with no marked variation in size of fish between codends.

Objective 2 - A GOV trawl (BT148) with a 150 mm mesh square extension was used but owing to time lost due to bad weather only some preliminary measurements and observations were possible.

Objective 3 - The RCTV system was used to observe and record the fishing process on the few occasions when weather conditions and underwater visibility permitted. Only on the one haul in North Sound was the vehicle used with natural light. On the Copinsay grounds artificial light was necessary due to the extremely poor visibility at fishing depth.

Seen in draft: G Geddes

R D Galbraith

11 November 1982