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FRV *Clupea*

Cruise 1503C

15-22 September 2003

## REPORT

### Ports

**Beginning:** 15 September, Fraserburgh

**Ending:** 22 September, Fraserburgh

### Personnel

Barry O'Neill

Jim Mair

Emma Jones

Keith Summerbell

Peter Barkel

Michael Stewart

### Gear

BT 186

Scanmar units, self recording flow meters

RCTV, towing cable and winch

SIT TV camera

Seabat sonar

Self-recording low light CCD cameras (ROS)

Light intensity recorder (Photomultiplier)

### Objectives

1. To obtain accurate morphological (girth, height, width) measurements of haddock, cod and whiting after summer feeding.
2. To observe and quantify the cod-end escape behaviour of these gadoids after summer feeding.

**Out-turn days per project:** 8 days – C738

### Narrative

1. Three tows were successfully carried out using the detachable cod-end where the cod-end was detached at depth and the chartered *Ocean Starlight* subsequently picked up the cod-end and attached it to the buoyed autowinch. The *Ocean Starlight* stood-by and monitored the autowinch during the night. In the morning, when the cod-ends had reached the surface, the *Clupea* rendezvoused with the *Ocean Starlight* and retrieved the cod-ends. A sample of the fish were taken from each haul and the following morphological measurements taken: length, head height, head

width, head girth, girth at the first dorsal fin and girth halfway along the first dorsal fin. An internal examination was made to ascertain sex, maturity, stomach contents (empty, medium, full) and swim bladder condition (normal, ruptured, overinflated, deflated).

2. During the remainder of the fishing tows observations were made of fish behaviour in the cod-end. It was only possible to use the RCTV on the last two days of the trip as firstly, the umbilical cable had been incorrectly terminated and secondly, the cable in the winch connecting the slip ring to the terminal box was ripped out. Good footage, however, was obtained with the net mounted cameras, which were positioned close to the cod-line on a circular hoop looking forward, and two metres further forward, attached to the netting, looking aft.

Barry O'Neill  
19 February 2004

Seen in draft: A Simpson, OIC *Clupea*