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FRV *Clupea*

Cruise 0703C

REPORT

11-18 April 2003

Ports

Start: 11 April, Fraserburgh
Finish: 18 April, Fraserburgh

Personnel

- Barry O'Neill
- Mike Breen
- Emma Jones
- Keith Summerbell
- Peter Barkel
- Eric Armstrong

Gear

- BT 186
- Scanmar units, load cells, 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 post spawning haddock, cod and whiting.
2. To observe and quantify the cod-end escape behaviour of these gadoids post spawning.

Out-turn Costs Per Project: 8 days C738

Narrative

1. Four tows were carried out using the detachable cod-end with the charter vessel *Oceana* subsequently picking up the cod-end and attaching it to the buoyed winch. In three of these tows the cod-end successfully detached at depth, whereas in the other it only became free as the gear was being hauled. *Oceana* stood-by and monitored the autowinch during the night. In the morning, when the cod-ends had reached the surface, *Clupea* rendezvoused with the *Oceana* and retrieved the cod-ends. A sample of the fish were taken from each haul and the following

morphological measurement 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. Although numbers of fish were low, footage of fish distribution in the cod-end was obtained with the RCTV SIT and net-mounted ccd cameras in water depths down to 80 m. At greater depths, light levels were not sufficient. Acoustic images of the cod-end in cross-section were also obtained using the Reson Seabat multibeam sonar. Whilst individual fish escaping from the cod-end were easily identified using these images, individual fish within the confines of the commercial cod-end fished could not be easily distinguished. In the poor sea conditions encountered there were additional difficulties associated with the large amount of relative motion between the RCTV and the cod-end.

Barry O'Neill
2 December 2003