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FRV *CLUPEA*

Cruise 1592C

REPORT

30 September - 21 October 1992

Personnel

| | |
|----------------|---|
| C S Wardle | SPSO (in charge) |
| C D Hall | SSO |
| J Main | SSO |
| C W Glass | HSO |
| W R Mojsiewicz | SO |
| J Barkess | Ship Operations Manager (30 Sept - 2 Oct) |

Objectives

1. To test new DC motors on RCTV.
2. To observe and document the reaction behaviour of small cod within the extension and cod-end regions of a net.
3. To investigate visual illusion as a means of modifying reaction behaviour of fish in cod-ends.
4. To collect and deliver live fish for sonar target strength experiments.

Narrative

Staff travelled by minibus to join *Clupea* at Fraserburgh on Wednesday 30 September. *Clupea* proceeded into the Moray Firth to carry out the RCTV trials and to search for suitable aggregations of small cod. The half landing was at Hartlepool on 9 October. *Clupea* and staff returned to Fraserburgh for unloading on 21 October.

Results

The RCTV was fitted up at anchor with the new compact DC motors but after diagnostic tests to trace problems to a control unit fault these were replaced with the normal AC motors. Meanwhile the net was rigged and the first haul was made after lunch on 1 October. During the 21 days of the cruise, 35 hauls were made and four days lost due to unsuitable weather conditions. The hauls comprised a sequence of cod-end modifications designed to investigate the reaction behaviour of cod and the use of patterns or illusions to cause fish to leave through the meshes of the extension tubes of the cod-end area. Tows were made in the Moray Firth, Aberdeen Bay, Stonehaven, Scarborough Head, Whitby, Pittenweem, Stonehaven and Aberdeen Bay. These tows showed a variety of conditions and large numbers of a range of fish species. Four tows off Whitby were among a local fleet fishing for fish feeding on herring eggs. All species caught here had stomachs packed with herring eggs including mackerel, dabs, haddock and cod.

Reaction behaviours were filmed using TV SIT camera when natural light was sufficient and when too dark the Simrad 3200 mounted on the vehicle was successfully used to maintain position alongside the gear (without light) and flash photographs were made in this way. A fine mesh cod-end was used to sample the fish that passed through the experimental extension rigs. All catches were measured for analysis and related to reactions of fish seen on video films. The RCTV was positioned for long periods alongside the test area of the net so that the proportion of fish passing out through meshes could be related to the proportion passing along the extension to the cod-end, test and control rigs were compared, these films are being analysed. On 19 October a catch of live cod and haddock from Aberdeen Bay was landed at Aberdeen for the sonar target strength work (contract EDEZ) and 12 horse mackerel for the behaviour work on the EC contract (TE3.613). Notable was capture of a ling 106 cm and a bass 62 cm both in the same haul just off Aberdeen beach.

C Wardle
25 November 1992