

IN CONFIDENCE: Not to be quoted without prior reference to the Laboratory

FRV 'Clupea'

Cruise 5/84

Report

24 April - 14 May 1984

Objectives

- 1 To investigate the influence of fishing square overhang on fishing performance, using both modified conventional and multi-level trawls.
- 2 To examine the difference in net drag between two level and three level trawls.
- 3 To carry out instrumented gear trials on the proposed CLUPEA survey gear Chalut 28.90/37.10 (BT 159).

NARRATIVE

After loading in Buckie CLUPEA sailed for Orkney waters on the evening of 24 April. Fishing trials commenced the following day in the Copinsay area and continued until 29 April when SE gales prevented further work. The first half landing in Kirkwall was brought forward to 30 April and fishing trials were resumed on 1 May. Work continued in the Copinsay area until 4 May when CLUPEA steamed to the north coast for instrumentation trials. Weather conditions on 7 May forced CLUPEA to return to the east side of Orkney and a second mid cruise break was taken in Kirkwall on 8 May. After a further haul off Copinsay on 9 May, CLUPEA steamed south to the Moray Firth to complete the instrumentation work which continued until 12 May. A malfunction in the trawl winch while preparing to shoot the gear that morning resulted in CLUPEA having to return to Buckie for repairs. Further work was ruled out after an examination of the defective winch so the cruise ended in Buckie on 12 May. Fishing gear was unloaded and returned to Aberdeen on 14 May.

RESULTS

Twenty three fishing hauls were carried out with modified conventional and multi level trawls. A total of 17 hours of videotape recordings were made using the RCTV (Remote Control Television Vehicle). These include several sequences of roundfish escaping from the conventional trawl codends fitted with attachments such as lifting bags and a small mesh whole cover. Fish were worked up on 7 hauls when using the multi-level trawl.

Six instrumented hauls (3 with each gear) were made with the two level and three level nets. Net drags at various speeds were measured in both deep and shallow water.

Three instrumented hauls were made with Chalut 28.90/37.10 in deep water. Due to the trawl winch failure and subsequent early termination of the cruise, no shallow water measurements or RCTV observations were made. However analysis of the deep water data produced the following results using a headline kite and 350m warp