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

Cruise Report

FRV Clupea

6 - 24 October 1975

PERSONNEL	Dr P A M Stewart	PSO (In Charge)
	Mr G M Cameron	SSO
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OBJECTIVES

1. To continue the comparative fishing experiment for flat fish started in 1974 using an electrified beam trawl.
2. To instigate the use of a fish stunning apparatus to obtain small numbers of mid-water gadoids.

PROCEDURE

Equipment was landed in Aberdeen on 6 October. Clupea sailed from there to the Dornoch Firth where an underwater inspection of the gear was made by divers. Experimental trawling was conducted on the south shore of the Moray Firth between Hopeman and Nairn. Persistent south-east winds prevented trawling at Clyde Ness. Weekends were spent in Buckie and the cruise terminated there on 23 October, as adverse weather conditions prevented Clupea from sailing direct to Aberdeen. The vessel went to Aberdeen on 24 October and the equipment was unloaded on 27 October.

To maximise the time available for comparative fishing the second objective was abandoned.

RESULTS

The fishing gear used was a 9m beam trawl divided in two from the beam aft and with twin cod-ends. Electric ticklers were rigged on one side of the gear and a chain tickler on the other. Each haul gave a comparison between the catches obtained with electric and chain ticklers, and the catch in each cod-end was measured for every haul deemed to provide a valid comparison. 35 hauls were made of which 25 were considered to be statistically valid. Hauls were invalidated mainly by gear damage; chafing of the belly of the net caused by the weight of benthic debris picked up at certain places, particularly by the chain tickler. This problem was largely eliminated by using a chafer on the belly of the net. The percentage of valid hauls obtained was higher than on previous cruises using this gear.

Preliminary analysis of the comparative data indicates that for fish over 20cm in length the electric and chain ticklers produced equal catches. For fish under 20 cm in length the chain tickler produced 30% more fish. The results suggest that an electric tickler will not produce a greater catch than a chain tickler but may be more selective.

The pulse generating equipment performed well on this cruise. The new hydraulic arm on Clupea greatly simplified the handling of the beam and no damage was caused to the equipment whilst lifting the beam inboard and outboard. On previous cruises much of the damage suffered by the electrical equipment took place during these operations.

P A M Stewart
27.10.75

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