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

CRUISE REPORT

FRS CLUPEA

14 February - 15 April 1972

Objectives

1. To carry out a herring egg survey of Ballantrae Bank.
2. To survey the area for herring larvae and assess larval production.
3. To sample herring concentrations in the Ballantrae Bank area.
4. To make tests with the Digital Sonar equipment.
5. To lay and recover current meter moorings.
6. To carry out a programme of hydrographic and plankton sampling in the Clyde estuary.

Narrative

"Clupea" sailed from Aberdeen at noon on Monday 14 on passage to the Clyde. Storm force winds and a five hour visit to Stornoway for radar repairs delayed arrival until Thursday 17 when station No 3 was occupied at 1030 hours; and the line of stations to the Bank was completed, together with an echo survey for herring shoals during the first week. No traces of pelagic fish were recorded.

The Marconi representatives joined "Clupea" on Sunday 20 and remained on board for the following week. The Digital Sonar was used throughout this period, but extreme scarcity of pelagic fish greatly hampered the evaluation of the equipment; nevertheless, valuable shipboard experience was gained.

Current meter moorings were successfully laid and recovered as planned.

Trawl hauls were made as necessary to obtain herring samples. The scarcity of herring as suggested by the lack of echo traces was substantiated by the very small catches obtained.

The main effort of the cruise was divided between egg and larval surveys, the emphasis shifting from eggs to larvae when hatching took place.

Results

Egg Survey: Herring spawn was not located until well into March, mainly because up to this time the spawning area was inaccessible due to trammel nets. The observations showed that the egg patch, although in the same position, was considerably smaller in total area, and the density of eggs

within the patch was much lower than in previous years. At the end of March the eggs sampled were in an advanced state of development.

Larval Survey: Newly hatched larvae were first obtained early in March and were taken throughout the remainder of the cruise. As expected from the results of the egg survey, the numbers of larvae were relatively small, the maximum catches of 500-1000 per haul occurring on 22 and 28 March.

Plankton hauls taken during the cruise in other areas of the Clyde contained very few herring larvae.

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19 June 1972