

FRV 'Clupea'

Cruise 2/78

REPORT

13 Feb - 21 April 1978

Objectives

1. To sample the spring spawning herring stock in the Clyde
2. To carry out intensive larval surveys on Ballantrae Bank to estimate herring larval production in the area.
3. To carry out larval surveys over the Lower Clyde area to provide information on the distribution of herring larvae in areas other than Ballantrae Bank.
4. To obtain eggs and sperm for herring rearing experiments.
5. To test the plankton sampler monitoring equipment being developed in the Laboratory.

Narrative

'Clupea' left Aberdeen at 1100 on 14 Feb, sailing having been delayed because of bad weather. The ship arrived in the Clyde at 0900 on 16 Feb. The period between arriving in the Clyde and the first long weekend break was spent trawling and echo-sounding in the area between Arran and Crosswell Point. The first long weekend break was at Greenock where modifications were carried out to the plankton metre block. Between the first and second long weekend breaks about $\frac{1}{2}$ the time available was spent doing herring larval surveys on Ballantrae Bank and over the wider area of the Lower Firth of Clyde. The remainder of the time available was spent trawling. During this period the work was badly disrupted by a series of westerly and north-westerly gales. Although little actual time was spent in port during this period it did mean a lot less work than was wished was possible in the Ballantrae Bank area. The second long weekend break was spent in Troon. During the last part of the cruise the time was largely spent on larval surveys. 'Clupea' left the Clyde at 1500 on 18 April and docked in Aberdeen at 1000 on 20 April.

Results

Trawling

During the cruise trawling was almost entirely carried out using a bottom herring wing trawl. Attempts were made during the first part of the cruise to use the midwater trawl but the netsonder system was non-functional. Although the netsonder was later repaired no further attempts were made to mid water trawl because of the lack of suitable traces to tow on. Indeed observations in the latter part of the cruise on the local pair trawl fleet indicated that they were making very long tows of 3-5 hrs duration in likely areas rather than the aimed type of fishing one would associate with pair trawling.

During the cruise 43 hauls were carried out with the bottom trawl. Catch rates were very variable ranging from 1 to 29 baskets for an hour long tow. The average catch was $4\frac{1}{2}$ baskets. Catches were generally mixed but small fish (T. esmarkii, sprats, small herring and small whiting) dominated most of the catches. Ripe and running herring were caught in almost half of the hauls made but on all but four occasions were present in small numbers (< 10). The largest catches of ripe herring were made in the Ballantrae Bank area. During the cruise male/female gonads were returned to the Laboratory for rearing experiments.

Larval sampling

During the cruise 6 surveys off Ballantrae Bank and 6 surveys of the Outer Clyde area were completed. The number of surveys on Ballantrae Bank was reduced because of the long period of strong to gale force W to NW winds between the first and second long weekend breaks. Although the samples have not yet been analysed, visual examination at the time of collection indicated that clupeoid larvae were very scarce.

Plankton monitoring equipment testing

During the week of 26 March to 2 April tests were carried out on the Deck Recording Depth Flowmeter system being developed by the Laboratory. These tests showed that the system was not yet operational and indicated the modification necessary. No tests could be made with the new mechanical metre block as problems were experienced with the wire jumping the block and it was decided to replace the block until suitable modification could be made.

David W McKay
25 May 1978

Seen in draft G Geddes

