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

CRUISE REPORT

FRV "CLUPEA"

10 - 22 February 1975

Objectives

1. Pollution and hydrographic studies of the Cromarty Firth and nearby offshore area.
2. Pollution and hydrographic studies near Flotta.
3. Field trials of deck recording depth-flowmeter.
4. JONSIS hydrographic line.
5. Collection of water in the Firth of Clyde.

Narrative

Final departure of FRV "Clupea" for the survey area was delayed until 1640 on Thursday 13th, due to refit and associated problems. Work commenced in the Cromarty Firth area at 0220 hrs on the 14th and continued until 2340 hrs that evening when "Clupea" proceeded to Kirkwall for the weekend. Mr Slessor left the ship at Kirkwall and Messrs Dunn and Marsh joined for the deck-recording depth-flowmeter trials which provided encouraging results.

Strong winds of up to force 9, and time lost at the beginning of the cruise, prevented the JONSIS line being attempted. The strong wind also delayed departure from Kirkwall until 1100 hrs on the Monday morning. A passage was then made to Lyness and work commenced in Scapa Flow on the morning of Tuesday 18th February and was completed by 1000 hrs on Wednesday 19th when Messrs Adams, Marsh, Dunn and Robertson left the vessel at Stromness. "Clupea" then set sail for the Clyde to complete objective 5.

When off Mallaig the following day, the vessel was however recalled to Aberdeen to take the place of FRV "Explorer" in an international young herring and pre-recruit gadoid survey. "Clupea" docked in Aberdeen at 1600 on 21st February.

Results

With the exception of a few stations which were unsuitable for "Clupea" to occupy, hydrographic, chemical and plankton sampling was completed as per the programme.

Temperature and salinity observations in the Cromarty Firth and nearby offshore area showed (i) a typical estuarine pattern in the area west of the longitude of the middle of Nigg Bay, (ii) well mixed water in the deep water in the area of the mouth of the Cromarty Firth and (iii) stratified water in the area between Nairn and Balintore.

The area around Flotta showed little variation in temperature and salinity either in depth or spatially. Surface and bottom temperatures ranged from 5.90 - 6.71°C and 5.72 - 6.70 respectively, the corresponding ranges for salinity being 34.64 - 34.76‰ and 34.65 - 34.75‰.

Plankton samples have yet to be analysed.

Hydrocarbon sampling was partly restricted in the Flotta area, and more extensively restricted in the Cromarty Firth, by rainfall preventing the collection of the surface film (Cromarty), by unsuitable tidal conditions and by extensive damage to the Agassiz trawl during its first haul.

The samples have not yet been analysed.

JAMES A ADAMS
2 April 1975

Seen in draft - Mr G Geddes

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Scientific staff on board-

Mr J A Adams
Mr M Marsh
Mr R D Adams
Mr M R Robertson
Mr G Slessor
Mr J Dunn

Mr G Geddes (CLIFFEA)
Capt P S Burn (SCOTIA)
Capt D Rattray (EXPLORER)
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Mr W Gatt (GOLDSEEKER)
FOs - Lossiemouth, Wick,
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