

In Confidence: Not to be quoted without
reference to the laboratory.

CRUISE REPORT

F.R.V. "Clupea"

5th May - 7th June, 1969.

Objectives

- (1) Survey of the sandeel and Norway pout stocks of the north and west coasts of Scotland.
- (2) A Gulf III and multi-depth indicator survey of the North and South Minches.
- (3) Further trials of plankton sampling instrumentation.

Narrative

Langham, Groves and MacLeod joined the "Clupea" on 5th May and proceeded to Lyness, Orkney. The ship then operated to the west of the Orkneys, anchoring at nights in Loch Erribol but returning to Stornoway for the weekend. The following week, trawling was carried out in the Minch area. In the third week, the "Clupea" left Stornoway and carried out a series of trawl hauls in Broad Bay before operating in the area between the Butt of Lewis and Sule Skerry. After a long weekend break, trawling was carried out in the area south of Stanton Bank.

Adams, Bainbridge, Murray and Dunn joined "Clupea" at Oban at 1200 hours on Monday, 2nd June. The afternoon was spent in checking and repairing the slip-ring winch contacts. The ship sailed that evening for the Lynn of Morven, where work commenced at 2020 hours. Continuous sampling with the Bridger Gulf III in this area occupied the following 42 hours, with multi-depth indicator samples and hydrographic observations being made approximately every four hours.

"Clupea" then did a restricted Gulf III and multi-depth Indicator survey of the South and North Minches. This was completed about 1400 hours on Thursday, 5th June, the ship then proceeding to Buckie where she docked early on the morning of the 6th.

Results

(1) Sandeel

Although sandeels occurred in 20 of the total of 40 trawl hauls, they were only caught in quantity in two hauls in Broad Bay. One haul of about 5 baskets per hour comprised about 4 baskets of Amodytes marinus and 1 basket of A. lanceolatus, although A. immaculatus and Gymnamodytes semisquamatus were also caught. The other haul of 4 baskets was composed entirely of A. marinus.

A. marinus occurred in 17 hauls. A. lanceolatus and A. immaculatus were less frequent, but usually were associated with A. marinus. G. semisquamatus occurred in two hauls, in Broad Bay and the Sule Stack area.

Norway Pout

Norway pout were taken in 25 hauls, but were absent from Broad Bay. It occurred in hauls from the North Minch and North Rona to the Orkneys

and in the Barra Head/Stanton Bank area. The largest hauls were one made to the west of the Orkneys (A17c), consisting of about $5\frac{1}{2}$ baskets per hour; and another in the North Minch (YY15b) of about 2 baskets per hour.

By-catches

Other species were much less frequent, although haddock were occasionally numerous. Plaice were abundant in the Broad Bay catches, and herring and sprats were plentiful in the two Stornoway Bay hauls.

(2) Plankton

No evaluation of the data collected during the plankton investigations has yet been made. However, it is intended to use the data to study (i) the effect of the flowmeter position on the value obtained for the volume of water filtered, (ii) the effect of the flowmeter at the mouth on the plankton catch and (iii) the catches of the Gulf III at 30m and the multi-depth indicator at 30m.

The plankton sampling instrumentation was used intensively and a number of faults were discovered which are being remedied.

Hydrography

Surface temperatures in the Lynn of Morven ranged from approximately 8.4 to 9.5°C , and bottom temperatures from 8.1 to 8.3°C . In the South Minch surface temperatures ranged from approximately 10.0 to 10.4°C and bottom temperatures from 8.4 to 8.8°C . In the North Minch the corresponding temperatures were from 9.2 to 9.8°C and from 8.0 to 8.3°C respectively.

N. P. LANGHAM

J. A. ADAMS

18th July, 1969.