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1975 RESEARCH VESSEL PROGRAMME

REPORT: R V CIROLANA: CRUISE 11A

(Provisional: Not to be quoted without prior reference to the author)

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DURATION: Left Falmouth 0900 h 28 November
Arrived Gt Yarmouth 1530 h 9 December

All times are Greenwich Mean Time

LOCALITY: Western English Channel

AIMS:

- 1 To carry out an acoustic survey of the area Start Point - Wolf Rock, extending up to 40-50 miles off the coast.
- 2 To identify echo traces by means of mid-water trawling and feathering.
- 3 Time permitting, to tag feather-caught mackerel, using both internal and external tags.

NARRATIVE

Scientific staff travelled by rail from Lowestoft to Falmouth on 26 November to join the ship that evening.

Sailing was delayed by a severe SW'ly gale until the morning of 28 November. After leaving Falmouth offshore weather conditions were still not good and as a result the first stage of the survey covered the inshore area up to about 12 miles off the coast between the Manacles and Plymouth. On 29 November the weather had moderated and the survey continued easterly to Start Point, extending offshore to about 20 miles off the coast. The easternmost part of the grid was completed on 30 November and the vessel then returned west to the Mounts Bay area where a further inshore section of the grid commenced later that day. However, this was interrupted by the development of a severe SW'ly gale during the night and shelter was sought off Falmouth Bay. The wind then shifted to a more southerly direction and increased to storm force, which necessitated dodging on 1 December. On the following day the wind was still at gale force but had now veered NW'ly, which enabled the vessel to carry out some feathering and mackerel tagging close inshore off the Manacles. The wind later increased to severe gale and this resulted in dodging for the remainder of that day. On 3 December weather conditions had improved and the Mounts Bay area grid was completed. The short term weather prospects were then favourable and the offshore sections of the grid extending up to 40-50 miles off the coast were completed between 4-6 December, following which a return was made to the western end of the survey area and Mounts Bay, where the acoustic survey and fishing were completed on 7 December, after which a return was made to Falmouth Bay. After a brief period of feathering and tagging mackerel on 8 December in the Falmouth Bay area, CIROLANA left for a return passage which was made in good weather conditions on 8-9 December, docking at Gt Yarmouth at 1530 hours on 9 December.

RESULTS

1 The acoustic survey grid was successfully completed as planned, with additional closer spaced cover within the 12 mile limit, where most of the principal fish concentrations were found.

The major mackerel concentrations were situated just off Mounts Bay (a patch measuring some $3\frac{1}{2} \times 2$ miles in extent) and between Falmouth Bay and Black Head, centred about the Manacles (this patch extending 6-7 miles $\times$ $1-1\frac{1}{2}$ miles in width).

Further east shoals were generally fairly scattered and of mixed type, although pilchard shoals appeared to predominate just south from the Eddystone, whilst towards the eastern end of the survey region, within 12 miles of the coast from Start Point, the major concentrations were of horse mackerel.

This general pattern of fish species distribution was confirmed by radio discussion with several of the mid-water trawler skippers who were then operating over the area, but then mainly concentrating on catching mackerel.

Offshore traces (outside the 12 mile limit) were generally very thinly dispersed, and very little was found at the extreme western edge of the survey area (6°W) or over the central sector of the grid between $4-5^{\circ}\text{W}$.

2 Mid-water trawling in this offshore mixed-type of echo-trace showed the presence of small mackerel (17-22 cm), small horse mackerel (10-12 cm), anchovy (12-16 cm), sardines (10-13 cm) and sprat (15-17 cm). This type of trace covered a fairly wide area in the mid-Channel region.

A total of seven mid-water trawl stations were carried out using the 1200 mesh Engel trawl. Unfortunately after attempting to sample the Mounts Bay mackerel concentration the resulting catch proved too large to be safely hoisted aboard, and the codend sleeve had to be cut away.

3 Mackerel were caught on feathers in the Manacles area and tagged. A total of 113 fish (less than 35 cm) were released with internal tags and 73 fish (over 35 cm) with external tags.

4 A sample of trawl caught mackerel from Mounts Bay were deep frozen for further biological examination, also four packs of smaller fish for laboratory fish food.

5 Surface temperature was continuously recorded by thermograph during the survey, and this remained fairly constant, ranging between $12-13^{\circ}\text{C}$ over most of the region.

P O Johnson
17 December 1975

SEEN IN DRAFT: T H F (Captain)
W J S (Fishing Skipper)

INITIALLED: A J L

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