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CRUISE REPORT

FRS EXPLORER

7 May - 22 May 1974

## OBJECTIVES:

1. To obtain practical information on the feasibility of catching blue whiting by pelagic trawl from a side trawler.
2. To determine the behaviour of blue whiting shoals during the catching process through the use of sonar on board FRV Clupea and of nets of differing mesh size.
3. To study the handling characteristics of large pelagic gears on a side trawler.

## NARRATIVE

The gear was loaded on 7 May and Explorer sailed at 1600 that afternoon for deep water North West of Cape Wrath where the warps were tightened onto the winch drums. In view of the worsening weather a rendez-vous was made with Clupea on the evening of 8 May to exchange gear and equipment and information on the availability of blue whiting.

After putting a sick member of the ship's crew ashore the following day Explorer proceeded to an area around 60° N 05° W on the eastern edge of the Faroe Shetland channel where an acoustic survey was carried out until weather conditions prevented the satisfactory operation of the echo sounder. Continuing gale force winds restricted activity until the early morning of 12 May when the search was continued. Two hauls were made at 60° 05' N, 05° 00' W before the weather worsened again. Contact was made with WFA personnel on board the stern trawler Ross Vanguard.

Resumption of fishing was possible for two hauls on 14 May after a further survey in an area surrounding 59° 50' N, 05° 15' W.

Explorer sailed for the Orkneys to collect further instrumentation from Clupea prior to her return to Aberdeen on 15 May. The half landing commenced in Lerwick on the morning of 16 May when the opportunity was taken to change net and doors.

After consultation with WFA personnel on fish availability, Explorer proceeded northwards from Lerwick and at 0100 on 18 May commenced a survey between latitudes 61° 10' N and 61° 40' N before bad weather again forced a curtailment of operations. Since the survey did not indicate the presence of larger quantities of fish, Explorer headed South again and after two hauls at a position 59° 50' N, 05° 15' W on 19 May a survey of the southern edge of the Wyville Thompson ridge from the latter position to 60° N 8° 40' N was completed.

Severe weather conditions halted further work at midday on 20 May and as it was not considered practical to steam into the gale to shelter in the lee of the Hebrides, Explorer made for Orkney.

It was therefore not possible to continue work within the time available and Explorer sailed for Aberdeen, docking at 2200 on 22 May.

## RESULTS:

### 1. Summary

Due to the poor weather conditions which reduced useful fishing time to three days, and due to the lack of dense concentrations of blue whiting the cruise objectives were not fulfilled. However, a considerable area was surveyed and further information on the distribution of blue whiting was collected. Furthermore some additional experience was gained on the handling of large midwater trawls and in particular on the operation of cable netzsondes in deep water.

Samples of fish were measured and otoliths taken. A small quantity of blue whiting were frozen and returned to the Laboratory.

### 2. Blue Whiting Distribution

There is evidence from three sources taken into account:

i) a preliminary survey was undertaken from Glupea on 7 May between  $60^{\circ}40'N$   $03^{\circ}20'W$  and  $59^{\circ}50'N$ ,  $05^{\circ}10'W$ . Some reasonable concentrations of fish (presumed blue whiting) were found south of  $60^{\circ}25'N$  but in general the traces showed dispersed layers at 90 to 150fms (165 to 275m) depth in a water depth of 270fms (495m). No hauls were made during this survey.

ii) The Ross Vanguard surveyed an area from St Kilda (latitude  $58^{\circ}N$ ) to Shetland ( $61^{\circ}10'N$ ). Exploratory hauls were made with little success - the highest catch rate of blue whiting being 10 baskets an hour, at  $61^{\circ}11'N$ ,  $02^{\circ}W$  on 14 and 15 May at 160 fms (295m) in a water depth of 265fms (485m).

iii) Along the eastern edge of the Faroe Shetland channel distribution patterns comprised either a dispersed layer or small concentrations of fish at depths between 90 and 150fm (165 and 275m) in water depths from 270 up to 90fm (495 to 165m) when the fish were on the seabed. Sample hauls confirmed the presence of blue whiting in small quantities.

Along the Wyville Thompson ridge from  $59^{\circ}50'N$ ,  $05^{\circ}15'W$  to  $60^{\circ}00'N$ ,  $08^{\circ}40'W$  no fish traces were found at all.

R S T FERRO  
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