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MINISTRY OF AGRICULTURE, FISHERIES AND FOOD
FISHERIES LABORATORY, LOWESTOFT, SUFFOLK, ENGLAND

1977 RESEARCH VESSEL PROGRAMME

REPORT: RV CIROLANA: CRUISE 2

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

STAFF:

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DURATION:

Sailed Grimsby 1708 h, 4 February

Arrived Grimsby 1555 h, 2 March

LOCALITY:

North Sea

AIMS:

1. To participate in the ICES International Young Fish Survey for I-group herring and gadoids.

2. To sample post-larval herring using the Isaacs-Kidd mid-water trawl.

3. To collect stomach contents of herring and gadoids.

4. To carry out biological observations on flatfish by-catches.

5. To take surface and bottom temperature and salinity readings on each trawl station.

6. To investigate the vertical and horizontal distributions of Norway Pout where suitable concentrations are found.

7. To deep-freeze 1 kg bags of small gadoids for FCU.

NARRATIVE

The young fish survey commenced off the north-east coast of England on 5 February and was subsequently extended eastwards towards the Danish coast until 10 February when operations were curtailed by a severe easterly gale. This persisted until the early hours of the 12th, after which CIROLANA docked at Esbjerg for a joint international meeting of most of the other vessels participating in the survey. These included LA PERLE (France), ANTON DOHRN and POSEIDON (Germany), TRIDENS (Holland), JOHANN HJORT (Norway), EXPLORER (Scotland) and ALIOT (USSR).

An official reception was provided at the Fisheries Museum, Esbjerg, where both scientific and crew representatives were entertained. The visit also provided a

valuable opportunity for inspection of the other vessels and their gear, and general discussions concerning the survey.

On 13 February a special meeting was held aboard TRIDENS to examine and discuss the relative merits of proposed standard trawls to be adopted on future young fish surveys. The two gears examined were the French bottom herring trawl aboard LA PERLE, and the Dutch herring trawl on TRIDENS. The former is a robust gear capable of working on rough ground, whereas the latter is a very light weight trawl - essentially a modified version of the original four panel Dutch herring trawl as used aboard CIROLANA - and this would be limited to fine ground use. The following day the NIC, Fishing Skipper, Mate and Bosun from CIROLANA made a day trip aboard TRIDENS to observe the proposed Dutch trawl in operation.

CIROLANA recommenced the young fish survey on 15 February, working off the Danish coast and in the German Bight until the 19th when a SW'ly gale interrupted work for another day, the survey in this region being completed on the 21st.

22 February was spent comparative fishing with the TRIDENS, during which Captain Krijgsman, two of his fishing crew and their Chief Scientist Mr Kuiter came aboard to check the operation of our gear and made some adjustments to improve its operation.

The main survey then continued on the 23rd and the remaining survey squares allocated were completed on the 26th. These covered an area from 4°E to the English coast between 53-54°N.

Passage was then made to more northerly grounds where EXPLORER had reported good catches of Norway Pout. The final work was carried out between 27 February and 1 March off the north east coast of Scotland and in the Fladen Ground area.

A good return passage was then made in fine weather, CIROLANA docking at Grimsby in the afternoon of 2 March.

RESULTS

1. 61 Dutch herring trawl tows of mainly 1 hour duration were made and covered 33 of the basic ICES sampling squares. They included some extra tows and squares outside those originally allocated. Length measurements were made on herring, sprat, cod, whiting, haddock and Norway pout, and otoliths were taken for ageing.

2. The Isaacs-Kidd trawl was used in an attempt to sample post-larval herring stages, but this failed to stand up to the stresses of towing, resulting in the spreader-bar bending. This work continued using the Boothbay net, but no small herring were caught on the 13 tows made, although 0-group sprats were taken on some hauls.

3. Stomachs were collected and preserved for future examination from herring, cod, whiting, haddock and Norway pout. The contents of larger cod stomachs were examined and noted on board.

4. Measurements and feeding analyses were carried out on the flatfish by-catch.

5. A total of 56 surface and bottom temperature and salinity observations were made, whilst the surface temperature thermograph was run continuously.

6. Time did not permit an assessment of the horizontal distribution of Norway pout, but possible changes in vertical distribution were investigated by comparing catches from the Dutch herring trawl and mid-water Engel trawl made in daylight and darkness. The results suggested that the Norway pout remained close to the bottom day and night (as was the case for the other gadoids), although one interesting feature to emerge was the very widespread and abundant distribution of 0-group sprat (modal lengths 7-8 cm) in the area investigated, these being the predominant

species in the mid-water tows. Larger sprats were taken on the bottom tows. It was also evident that considerable quantities of small whiting and haddock (less than 20 cm) were present in the area with the Norway pout.

7. 50 1 kg bags of small gadoids were deep frozen for FCU.

8. Daily radio contact was maintained with the co-ordinating vessel and others for an exchange of preliminary catch data.

GEAR LOSS

One Dutch herring trawl with footropes, chains, one Dan Leno, wires and bridles was lost on an unmarked obstruction. Another was badly damaged after striking a patch of rough ground, this was repaired.

P O Johnson
7 March 1977

SEEN IN DRAFT:

TF
WJS

INITIALLED: AJL

DISTRIBUTION:

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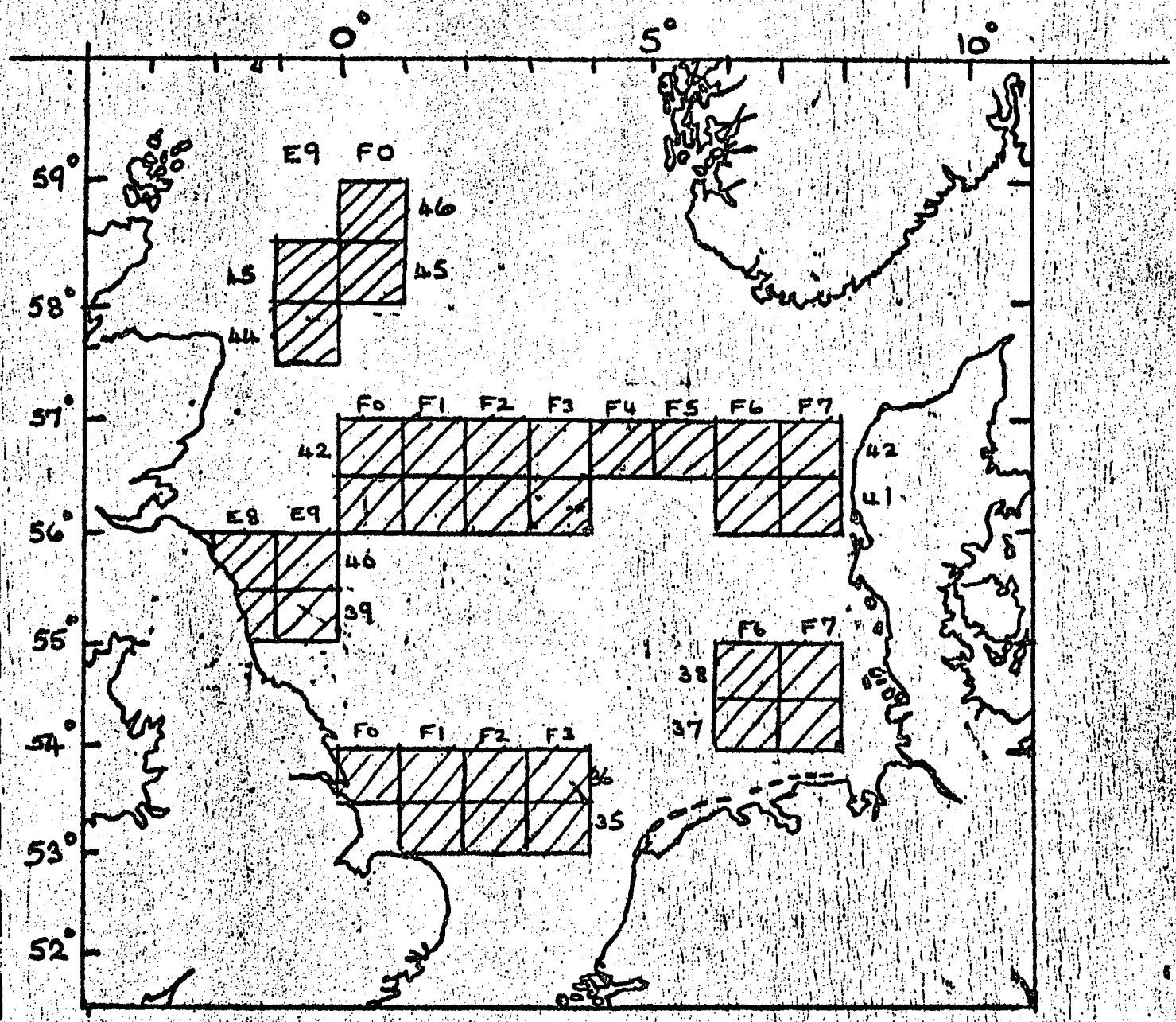

CIROLANA 2/1977

AREAS WORKED

4 FEB - 2 MAR