

MINISTRY OF AGRICULTURE, FISHERIES AND FOOD

Fisheries Laboratory, Lowestoft, Suffolk, England

1988 Research Vessel Programme

Report: RV CIROLANA: Cruise 2

Staff: W G Parnell
 T J Hulme
 G J Howlett
 T W Boon
 A M Watson
 J Dann
 R J Chapman
 D J Brown
 K Winpenny

Duration: 27 January-23 February

Locality: North Sea

Aims:

1. To participate in the ICES International Young Fish Survey.
2. To sample post-larval herring, sprat and eel and make volumetric assessments of krill using the Isaacs Kidd midwater trawl.
3. To take, at each bottom trawling location, surface and bottom temperature and salinity readings and collect nutrient samples.
4. To measure nutrients in situ and investigate various preservation regimes for samples.
5. To make one GOV trawl haul in each rectangle of sub-areas 61, 62, 63 and 66.
6. To replenish stocks of specimens for fish identification courses.

Narrative:

CIROLANA sailed from Lowestoft at 1204 h 27 January and steamed south to ICES rectangle 33F2 (see attached sheet) to start the English contribution to the International Young Fish Survey. The survey was to consist of a pre-determined number of 30 minute tows with the GOV trawl during daylight and two tows with the Isaacs-Kidd midwater trawl during darkness within each of the ICES rectangles allocated to England by the Dutch survey co-ordinator. Problems were immediately encountered on the GOV trawl survey which started at 1431 h on the day of sailing when the brakes failed on the main winch. In spite of adjustments over the next thirty six hours, six of the first eight trawl hauls were judged to be invalid either because of continued brake failure or because the trawl was badly damaged. The ship was then layed between 0900 h and 1700 h 29 January while brake repairs on the winch were carried out. After a test

shoot that evening to check the repair was effective, the survey was resumed the following day. By 4 February the survey on the western side of the North Sea had largely been completed apart from two rectangles off the Suffolk coast, and course was set for the rectangles on the eastern side. On arrival in rectangle 40F5 a SW gale prevented any work and the ship dodged until 0745 h 6 February. A lull in the weather allowed two further hauls with the GOV trawl but conditions deteriorated again forcing the ship to dodge until mid-morning next day. With no sign of any moderation in the weather it was decided to take a mid-cruise break in Esbjerg a day earlier than originally planned. Course was set for Esbjerg where CIROLANA docked at 2100 h 7 February. Replacement parts for the SCANMAR failed to turn up as requested the next day so CIROLANA sailed again at 0800 h 9 February. Fishing started again in rectangle 39F7 and proceeded southwards in steadily worsening weather until 1530 h 13 February in rectangle 38F6 in the German Bight, CIROLANA was forced to dodge until 1300 h 16 February in SW winds which reached hurricane force with gusts in excess of 70 knots. On resumption of fishing, conditions improved quickly but on the first tow on 17 February an accident on deck necessitated a long steam to Delfzijl in the Netherlands to land an injured crew member. By this time conditions had deteriorated yet again and with more westerly gales forecast, CIROLANA steamed to the Suffolk coast to work two trawl stations which were judged invalid at the beginning of the trip. A small grid of hydrographic stations was also worked between Lowestoft and Harwich. Another crew member was put ashore at Lowestoft for medical treatment for an injury sustained earlier in the trip. CIROLANA then steamed off that evening to complete the outstanding work on the International Survey. This was achieved by 21 February. Five further stations were worked outside the survey allocation area before course was set for Lowestoft at 1542 h 22 February. CIROLANA docked at 1115 h the next day.

Results:

1. In spite of the bad weather encountered on this cruise all except one of the ICES rectangles allocated to England in the International Young Fish Survey were fished using the GOV trawl. The exception, rectangle 37E9, was not worked because the nature of the bottom was regarded as presenting an unacceptable hazard to the gear. On each station all species were weighed and measured and otoliths taken from cod, haddock, whiting, Norway pout, herring, mackerel and plaice. Samples of sprat were deep frozen for otolith extraction later in the laboratory. All data were loaded into a data base and fully checked. Catch data for specified length groups of particular species were Telexed to the survey coordinator on TRIDENS.

SCANMAR sensors fitted to the trawl to determine headline height and wing end spread did not produce satisfactory results. The headline height sensor worked only spasmodically throughout the trip, and all attempts at rectifying the problem such as repositioning the sensor on the net and the removal of floats to cut out possible interference with the signal did not significantly improve matters. A non-rechargeable wing end minitransponder was suspected of having too low a voltage to be effective after the fifth day at sea. In the absence of a spare unit on board, replacements were ordered and promised for delivery in Esbjerg on 8 February. In the event they had not arrived when the ship left on 9 February and in consequence wing end spread measurements had to be abandoned.

2. Adverse weather conditions seriously affected the use of the Isaacs Kidd trawl on this cruise and only 28 of the 36 allocated rectangles could be fished. A SCANMAR depth sensor performed well on the trawl and proved to be reliable though recalibration was required on occasion. At the beginning of the cruise the net was deployed down the ramp from the net drum winch. This proved to be unsatisfactory however as in spite of many adjustments to the lead, warp out/speed readings were intermittent. There was also a strong suspicion that the winch speed control was not sufficiently sensitive to produce the required shooting and hauling speeds. Operations were later transferred to the port side drum of the cable winch, and the deployment was made much easier with constant warp out/speed readings and accurate winch speeds.
3. and 4. Surface and bottom nutrient and salinity samples were collected and temperatures read at 57 hydrographic stations which were located at the start or finish of each trawl haul. Nitrate, phosphate and silicate were determined simultaneously within an hour of sampling. Six duplicates of each sample were taken to provide material for an investigation of preservation regimes. Eleven additional hydrographic stations were worked off the Suffolk coast to provide data for the winter nutrients baseline study and further more varied samples for AEP 3's nutrient preservation experiment.
5. As the completion of the International Survey was not achieved until two days before the end of the cruise, only five extra GOV. trawl stations could be worked.
6. Samples of fish were deep frozen for use in fish identification courses.
7. Samples of five 'free swimmers' (e.g. cod, haddock, whiting) and five 'bottom swimmers' (e.g. dab, plaice, lemon sole) were deep frozen from each rectangle fished. (Dr P Howgate, Torry.)

W G Parnell

23 February 1989

Seen in draft: FS, RCN

Initialed: DJG

Distribution:

Basic list +
W G Parnell
T J Hulme
G J Howlett
T W Boon
A M Watson
J Dann
R J Chapman
D J Brown
K Winpenny

