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

1982 RESEARCH VESSEL PROGRAMME

REPORT: RV CORELLA: CRUISE 12

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

STAFF:

P O Johnson  
T J Hulme  
A M Watson  
L Cox  
P Elliott (Port Staff - North Shields)

DURATION:

Left Lowestoft 0845 h 18 August  
Arrived Lowestoft 0645 h 31 August

LOCALITY:

North Sea - NE Coast of England

AIMS:

1. To participate with RV CLIONE in a joint acoustic survey for spawning herring off the north east coast of England between the Farne Islands and Flamborough Head.
2. To collect samples of herring for ageing and biological analysis, and gonads of pre-spawning Banks fish for fecundity assessment.
3. To plot in detail, any concentrations of spawning herring located and observe their diurnal patterns of behaviour.
4. To check distribution and abundance of sprat in the area and obtain samples.

NARRATIVE:

CORELLA sailed from Lowestoft at 0845 h on 11 August in a strong to gale SW'ly wind and made passage with RV CLIONE to the Yorkshire coast area, the weather improving during the afternoon. A preliminary acoustic survey was made that night using the hull transducer to cover an area between Filey Bay and Whitby and determine the distribution of herring spawning shoals. This was completed by 1045 h the following morning when anchorage was made in Robin Hood's Bay to launch the towed body (TL2) and carry out calibrations on the acoustic survey equipment. This work was completed by 2230 h that evening and anchor was raised to carry a further overnight survey between Robin Hood's Bay and Scarborough extending up to 15 miles off the coast. The first pelagic trawl haul was made on the morning of 20 August to identify shoals a few miles NE'ly from Scarborough. Following a further survey in the area, anchorage was made overnight in Scarborough Bay due to poor weather conditions. The 21 August was spent surveying and fishing in an area between Whitby and Skinningrove, following which overnight passage was made to the Coquet region where a survey commenced early on 22 August to cover the area between Boulmer and the Farne Islands. The weather was generally good over the next few days, when the survey was extended to cover the Farne Deeps and southwards to Blyth. The weather then deteriorated rapidly on 24 August and it was decided to dock at Blyth for replenishment of water and stores. CORELLA sailed from Blyth at 0815 h 25 August and proceeded to Alnmouth Bay where anchorage was made for mid-cruise calibrations on the acoustic survey equipment. This work was completed by 1930 h and the survey then resumed to cover a second time the area

between Coquet Island and the Farne Islands, and over the following day (26 August) the survey grid was extended southwards to the Tyne and offshore to Bayman's Hole, where a rendezvous with RV CLIONE was made on 27 August. Their staff came aboard by small boat to discuss survey results to-date and plans for the latter part of the trip. An intership calibration run was then carried out with RV CLIONE off the Tyne that night over a distance of some 25 miles, following which CORELLA continued her grid southerly to work again off the Skinningrove-Whitby area on 28 August followed by an overnight survey on the spawning patch between Robin Hood's Bay and Scarborough. On the morning of 29 August the weather again deteriorated and shelter was sought in Filey Bay where an overnight anchorage was made and final calibration checks carried out on the survey equipment.

Anchor was raised from Filey Bay at 0645 h on 30 August and the final stage of the survey covered the Flamborough Off ground area. This survey was completed at 1700 h, the towed body raised and brought aboard, and an overnight return passage made to Lowestoft where CORELLA docked at 0645 h the following morning.

#### RESULTS:

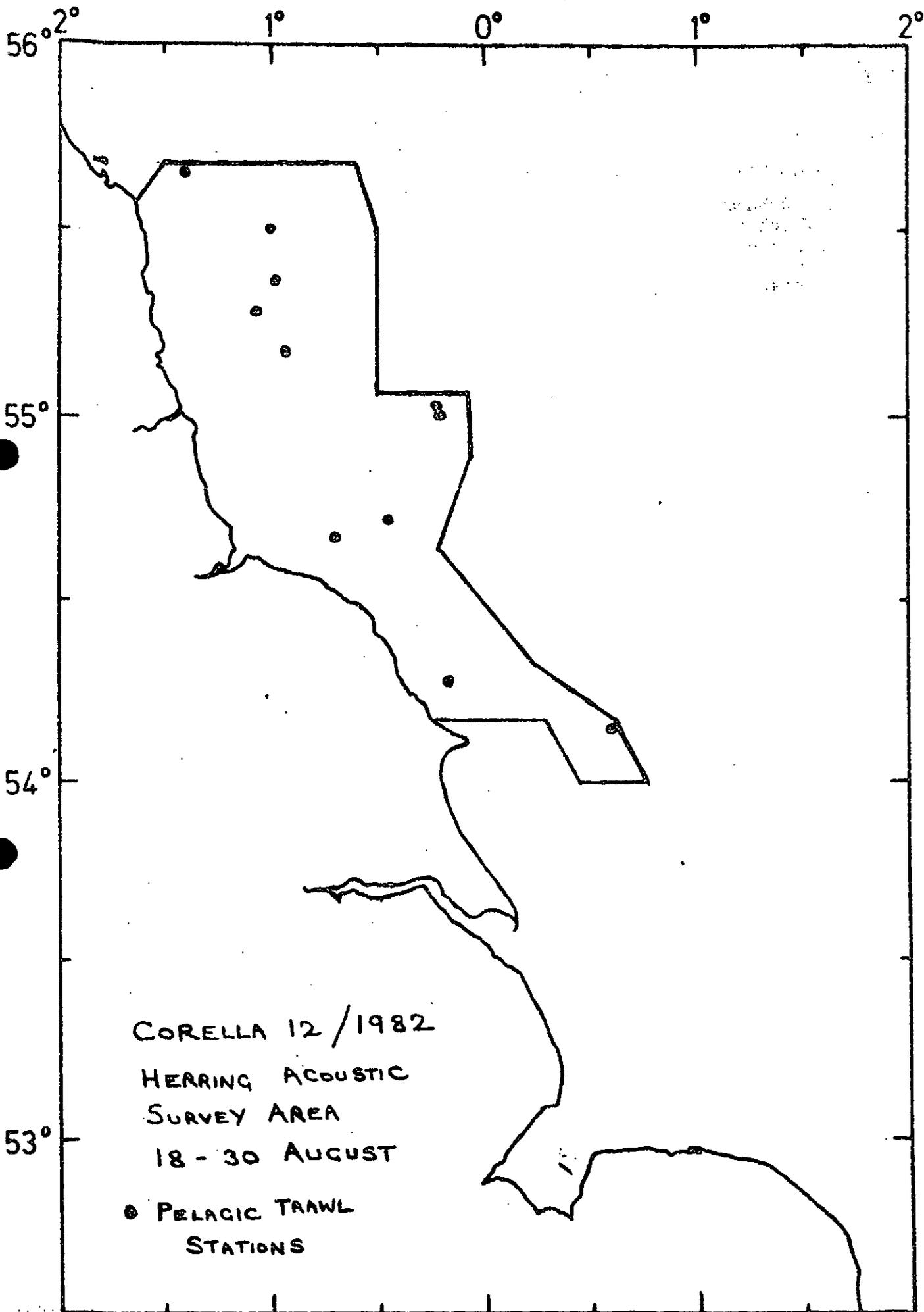
1. A total of 1255 nautical miles were acoustically integrated over the survey grid which covered an area extending between Flamborough Head (54°N) and the Farne Islands (55°40'N), and up to 30-35 miles off the coast in places.
2. Pelagic trawl hauls were made on 11 stations, and herring and/or sprat were taken on 10 of those.
3. A joint acoustic survey was carried out with RV CLIONE off the Yorkshire coast and spawning herring concentrations were successfully located and fished. An intership calibration run was also made with RV CLIONE off the Tyne.
4. Feeding herring shoals of immature and stage 4-5 maturity fish were located in the Skinningrove-Whitby area and samples obtained from two pelagic trawl hauls here.
5. A concentration of spawning herring was located about 6 miles east of the Longstone light and samples were obtained.
6. A widespread distribution of mainly small shoals were found over the Farne Deep extending south to the Tyne area and offshore to Bayman's Hole. Trawl samples showed small herring (8-13 cm) predominating in the more northern part of this area, but predominantly large sprat (10-17 cm) towards the south of the region, particularly between Coquet Island and the Tyne.
7. Herring fecundity samples were obtained from 134 fish, which covered the Longstone spawners, Whitby feeding fish and Robin Hood's Bay spawning fish. 532 herring from 6 stations were also sampled for age and racial studies.
8. Samples of small herring and sprat were also preserved in alcohol for further examination at the laboratory.

PJO Johnson (SIC)  
6 September 1982

SEEN IN DRAFT:

G L O

J B W H

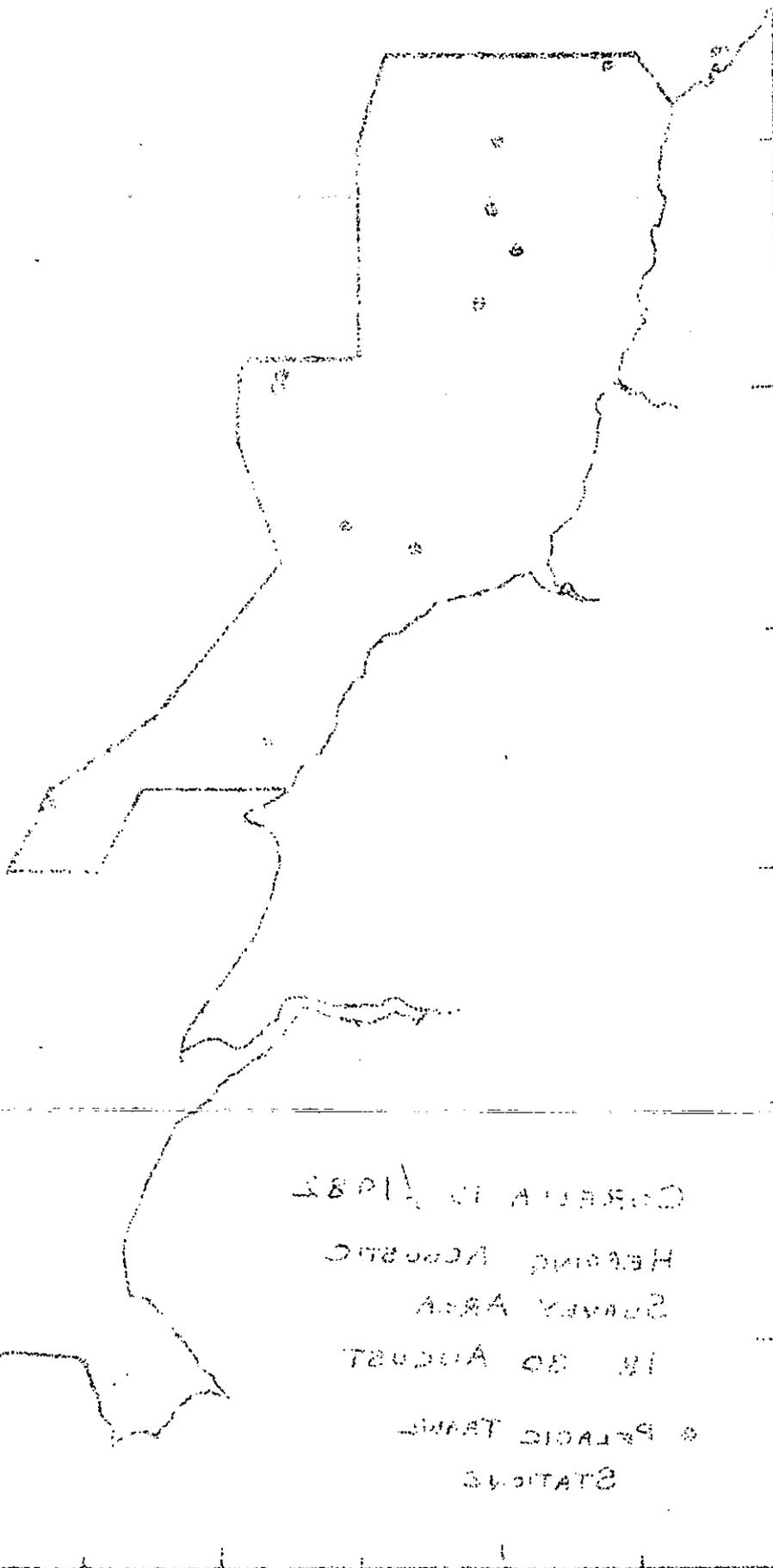


INITIALLED:  
D J G

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CORRECTION TO 1982  
HEARING RECORD  
SOUND AREA  
18 30 AUGUST  
STATICS  
SOUND RECORDING