

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

1994 RESEARCH VESSEL PROGRAMME

REPORT: RV CIROLANA: CRUISE 3

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DURATION: 25 February - 13 March.

LOCALITY: South-western Approaches, western English Channel.

AIMS:

1. To carry out a trawl survey of the western Celtic Sea.
2. To sample juvenile fish.
3. To collect Bass samples for maturity studies.
4. To collect, and preserve frozen, any scallops that are caught.
5. To obtain data on stomach contents to supplement the data set collected on earlier cruises.
6. To obtain data on development rates of fish eggs on an opportunistic basis.
7. To obtain megrim ovaries for fecundity studies.

NARRATIVE:

CIROLANA sailed from Lowestoft at 2000h on 25 February and made a good passage to the western English Channel. The trawl survey was commenced in the late morning of 27 February. After one haul on 4 March work had to be suspended due to bad weather but a resumption was possible the following morning. Good progress was made in reasonable weather conditions until 10 March when CIROLANA docked in Falmouth at 0900h for the mid cruise break and for an exchange of some of the scientific staff. CIROLANA left Falmouth at 0900h on 11 March to resume fishing that afternoon off Eddystone Bay to obtain further samples of mackerel in the Mackerel Box. The following morning work was resumed on the main survey grid but the trawl came fast on the first tow. During hauling the clutch of the trawl winch failed and the trawl warps subsequently parted with the resultant loss of the complete trawl. As it was not possible to repair the winch at sea the cruise was terminated and CIROLANA set course for Lowestoft where she docked at 2300h on 13 March.

RESULTS:

Aim 1. Of the planned grid of 65 trawl survey stations 32 were successfully completed and an additional two tows were made in the Mackerel Box. Trawl hauls were made using a modified Portuguese High-Headline Trawl fitted with rubber bobbins, a bunt tickler chain and a codend liner. Sixty floats were attached to the headline and polyvalent doors were used. Scanmar equipment was used to monitor headline height, door spread and bottom temperature. A chart indicating the position of each trawl station is attached.

At each station the catch of each species was weighed and all fish, or an appropriate sample, were measured. Samples of otoliths were taken as required. The resultant data were input to computer database using the Fishing Survey System, and preliminary summations and analyses were made.

Comparisons with earlier surveys are difficult to make in view of the partial coverage of the survey area. Cod, whiting and haddock were most abundant off the southwest of Ireland. Last year the 1992 yearclass of haddock was abundant as 1-group fish and this yearclass has again been prominent in the current survey. Hake, megrim and white anglerfish were most abundant along the shelf edge as usual at abundances similar to those recorded last year. Anglerfish were more widely distributed over the whole of the area covered.

The main concentrations of adult horse mackerel were along the shelf edge and in the western English Channel. Mackerel aged two and older were concentrated south of Cornwall with a relatively low abundance along the shelf edge.

Charts showing the distribution of catches of the main species of interest are attached.

Aim 2. Juvenile fish were sampled for recruitment studies. Preliminary indications are that 1-group hake are again relatively abundant. 1-group cod were found in greatest numbers off the southeast of Ireland and their abundance was much greater than last year. 1-group haddock and whiting were again abundant with length modes of about 20 cm. Young (20 cm mode) anglerfish were more abundant than last year, but small (15 cm.) white anglerfish were less abundant. Very few 1-group horse mackerel were taken on the stations that were worked. 1-group mackerel were more abundant than the low level recorded last year.

Aim 3. 3 bass were sampled and one ovary was preserved (D. Eaton).

Aim 4. 9 scallops were preserved frozen (Dr. Dare).

Aim 5. Stomach contents were recorded for hake, megrim, anglerfish, and cod to supplement data obtained on earlier surveys.

Aim 6. Artificial fertilisations of megrim eggs were attempted but survival was not good and the experiment was terminated.

Aim 7. 99 megrim ovaries were preserved for fecundity studies.

MISCELLANEOUS:

1. Samples of whiting, plaice, cod and dab were collected from two groups of stations used for collecting samples for contaminant studies (A. Franklin):
2. 53 gonads of anglerfish and 3 of red gurnards were preserved for S. Shankley, University of Swansea (M.Greer-Walker).
3. Various specimens were preserved for use on fish identification courses.
4. Attempts to keep berried crabs alive were not successful (D. Bennett)
5. Sprat samples were preserved for laboratory analysis.
6. Herring were sampled and hearts were preserved for studies on the distribution of the parasitic fungus *Ichthyophonus*. (D. Bucke)
7. Photographs were taken of the benthos taken in each trawl haul.
8. Whole weight was recorded for each fish otolithed.
9. Tissue samples from 100 whiting were taken for genetic studies (EC FAR Molecular genetics Programme - D. Thompson) and a duplicate set was collected for an Irish colleague working on the same programme. Additional samples from 50 haddock and 7 cod were also taken for Ireland.
10. Heads of various elasmobranchs were preserved for studies on elasmobranch diets and dentition for Mr. Ellis of Swansea University (M. Pawson).
11. Squids were extensively sampled by the observer from Ireland

B.W.Jones.
13 March 1994.

SEEN IN DRAFT:

M. Reynolds.  (SFM)

R. Jolliffe.  (Master)

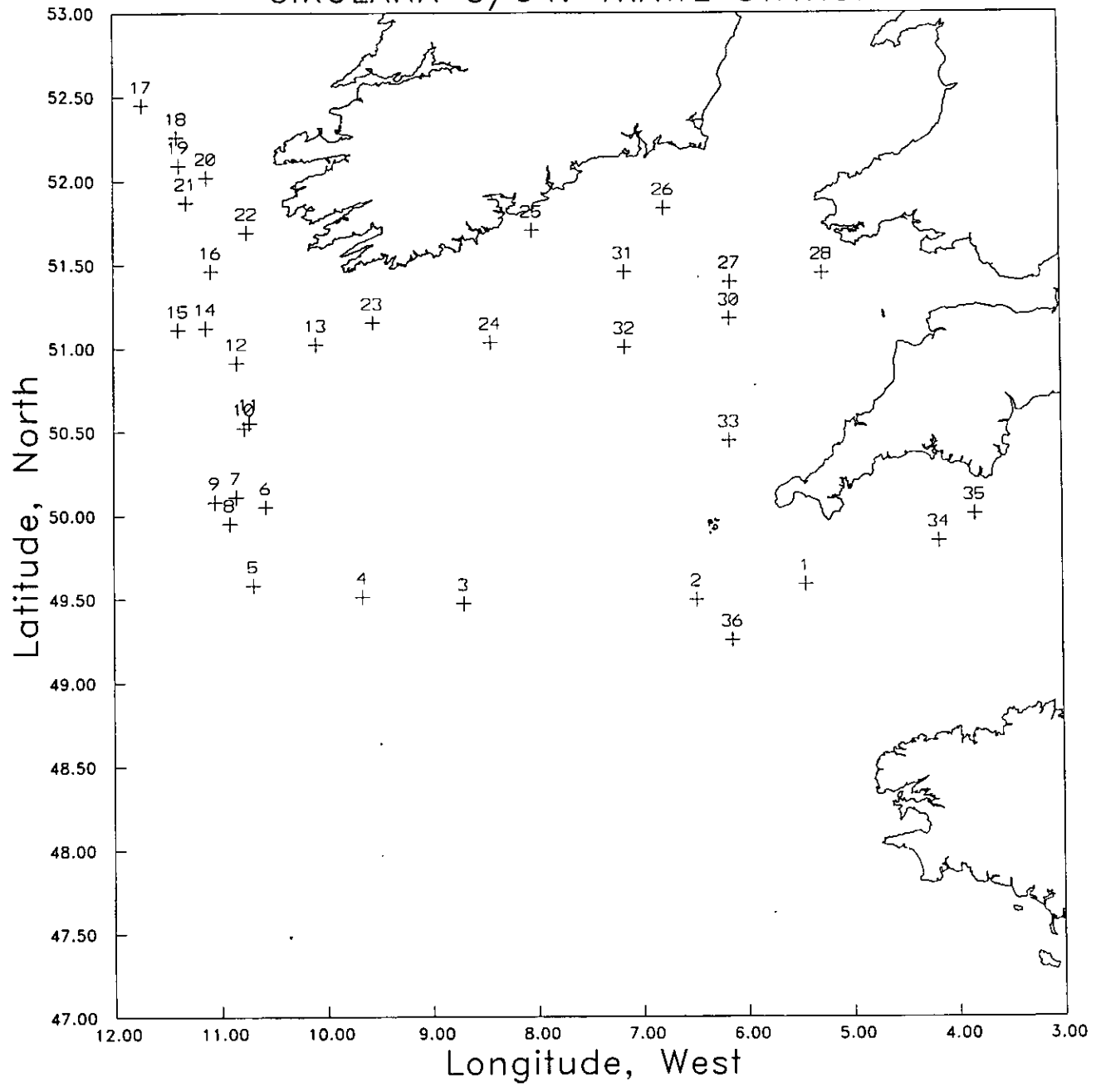
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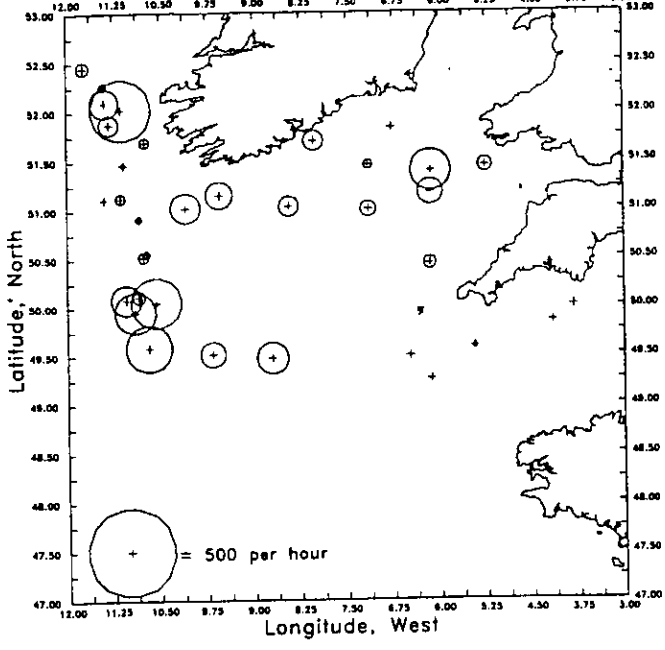
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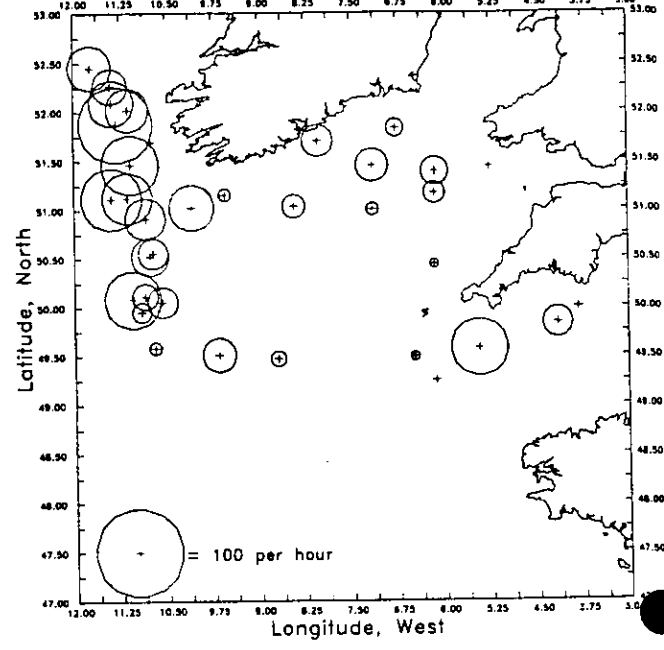
CIROLANA 3/94. TRAWL STATIONS



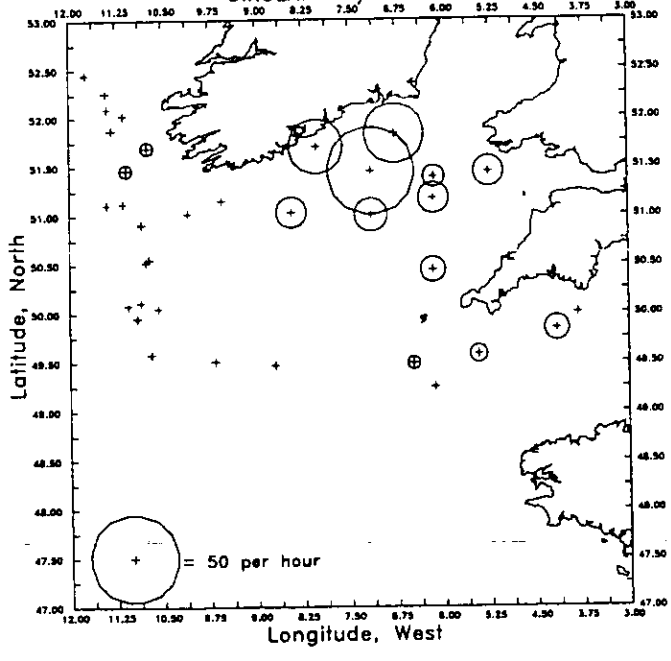
CIROLANA 3/94. HAKE 1 Group



CIROLANA 3/94. HAKE 2+ Group



CIROLANA 3/94. COD



CIROLANA 3/94. HADDOCK

