

R1/3

Not to be cited without prior reference to the Laboratory

Charter Vessel *Resolution*

Cruise 9223H

REPORT

24 June - 13 July 1992

Personnel

M Walsh	SSO (in charge)
A Robb	HSO
I Gibb	SO
Miss J Simpson	ASO
M Burns	ASO

Objectives

1. To carry out a survey for mackerel and horse mackerel eggs on the "western" stocks of these species.
2. To sample adult mackerel to obtain ovary samples for estimation of atresia.
3. To monitor temperature and salinity in the sampling area.

Narrative

Resolution sailed from Aberdeen at 1300 on 24 June. Progress to the survey area was rather slow due to adverse weather. A first calibration of the plankton sampler flowmeter was carried out using a high precision external flowmeter to measure speed through the water before commencement of the survey proper at 1030 on 26 June.

During the first half of the cruise the survey continued more or less uninterrupted until *Resolution* arrived in Cork at 1030 on 4 July. Sixty-two plankton hauls and nine positive handline hauls were carried out during this period in an area between 49°30'N and 58°00'N.

Resolution sailed from Cork at 0800 on 5 July to resume the survey. During the second half of the cruise a further 51 plankton hauls and nine positive handline hauls were carried out between 49°00'N and 56°30'N. No delays were incurred during this period. A second flowmeter calibration was carried out on 10 July but in the absence of the external flowmeter which had been damaged earlier. *Resolution* docked in Aberdeen at 1000 on 13 July.

Cruise tracks and stations worked are shown on the attached charts.

Results

During the cruise, fish eggs were picked out from the 113 samples collected. A preliminary analysis of these indicates distributions, during each half of the cruise, similar to those of previous surveys at the same time of year. The greatest concentration of eggs of either species was of horse mackerel west of the shelf edge along latitude $51^{\circ}45'N$ during the first half of the survey. Otherwise, in both halves of the cruise, concentrations of eggs of both species tended to be associated with the shelf edge, and a noticeable decrease in abundance was evident between the first and second halves of the cruise.

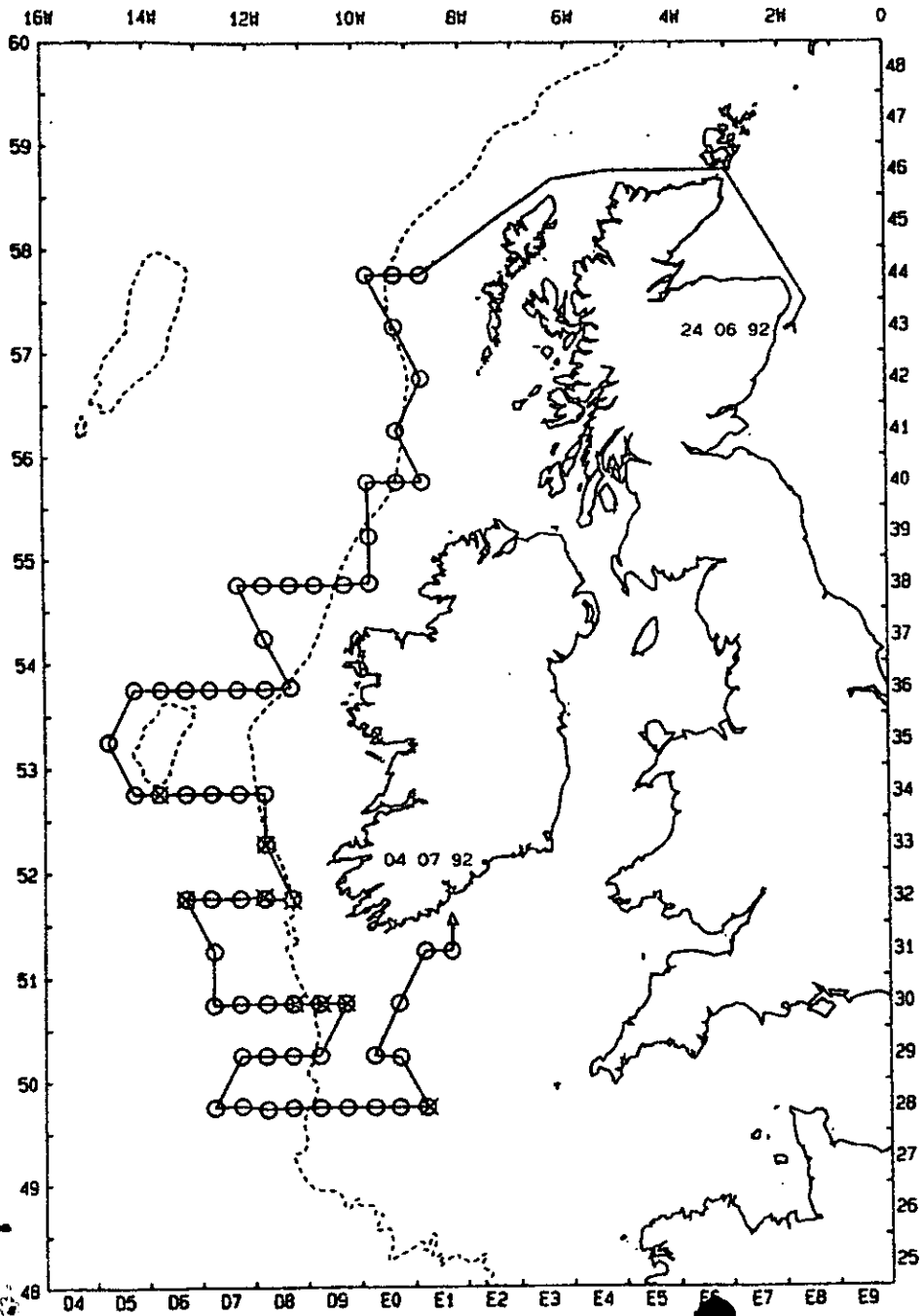
The size range of mackerel taken by handline was 23-42 cm with modes at 24/25, 30, 32 and 36 cm. All mackerel were aged at sea and ages ranged from 1-15+ with 1-4 year olds predominating and with a relatively high abundance of seven year olds (year class 1985) among the older age groups.

Ovaries were collected for estimation of atresia from random samples of 43 and 50 adult female mackerel taken during consecutive halves of the cruise.

Data on sea surface temperature and salinity were monitored continuously while temperature and salinity profiles were obtained at each plankton station using a Chelsea logger attached to the sampler.

M Walsh
25 August 1992

RESOLUTION 6/92 MACKEREL EGG SURVEY - CRUISE TRACK - PART 1



RESOLUTION 6/92 MACKEREL EGG SURVEY - CRUISE TRACK - PART 2

