

R1/12

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FRV *Scotia*

Cruise 0492S

REPORT

18 April-6 May 1992

Personnel

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A Weetman	ASO
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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 sample adult horse mackerel to obtain ovary samples for estimation of total fecundity.
4. To monitor temperature and salinity in the sampling area.

Narrative

Scotia sailed from Aberdeen at 1100 on 18 April. Severe weather during the afternoon and night of the 18th hampered progress to the survey area and a minor detour was also made via Loch Broom to pick up a replacement third engineer. During the subsequent steam to the survey area a first calibration of the plankton sampler flowmeter was made using a high precision external flow meter to measure speed through the water. The first plankton station, south west of Barra, was reached at around 0700 on 20 April when the survey commenced.

During the first half of the cruise, plankton sampling continued more or less uninterrupted with only minor time loss through severe weather or engine problems. Fifty-nine plankton stations were worked between 56°30'N and 44°30'N before arriving in Brest at 1100 on 27 April for the half-landing.

Scotia sailed from Brest at 0900 the following day. A second flowmeter calibration was made that morning before recommencing the plankton survey later that day. During the second half of the cruise a further 53 plankton hauls and five trawl hauls were made between 48°00'N and 58°00'N. A third flowmeter calibration was made on 4 May before docking in Aberdeen at 0600 on 6 May. As in the first half of the cruise, only very minor time loss was incurred through weather and engine problems.

In view of the reduced survey period compared to previous years, a very wide coverage of stations was achieved.

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

Results

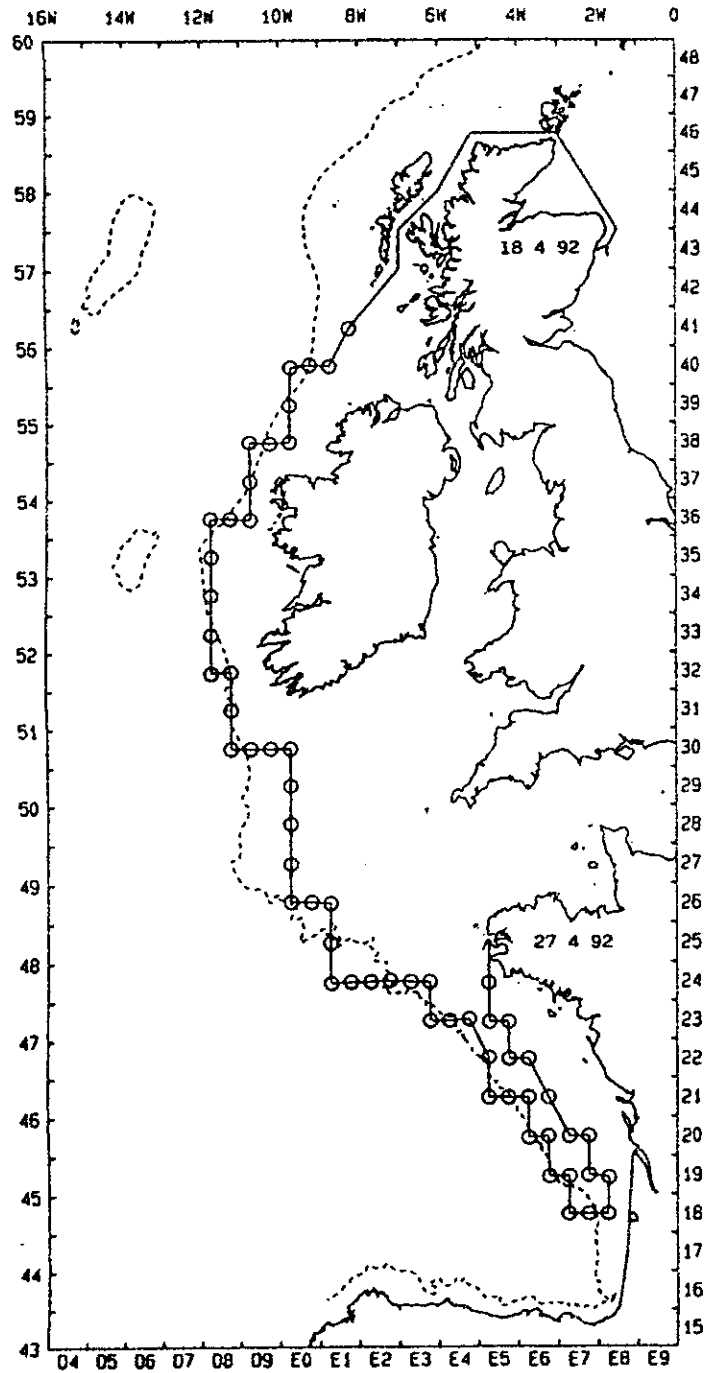
During the cruise fish eggs were picked out from the 112 samples collected. A preliminary analysis of these indicates a distribution similar to that of previous surveys at this time of year. The greatest concentrations of both mackerel and horse mackerel eggs were found near the 200 m contour mainly between 47°00'N and 49°00'N, but with some patches also to the north as far as Porcupine Bank and south to southern Biscay.

All five trawls contained either mackerel or horse mackerel or both. The size range of mackerel was 29-45 cm with a mode at 36 cm. All mackerel were aged at sea, ages ranging from 2-20+ years with 5 year olds (year class 1987) predominating. Ovaries from a random sample of 50 adult female mackerel were collected for estimation of atresia. The size range of horse mackerel was 18-38 cm with sample modes between 25-28 cm. Ovaries were collected from 60 horse mackerel, believed to be in late pre-spawning condition, for the determination of total fecundity.

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 June 1992

SCOTIA 4/92 WESTERN MACKEREL EGG SURVEY CRUISE TRACK PART 1



SCOTIA WESTERN MACKEREL EGG SURVEY CRUISE TRACK PART 2

