

R1/12

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FRV *Scotia*

Cruise 1592S

## REPORT

17 November-7 December 1992

### Personnel

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Mrs J McMillan	ASO
M Ronan	Irish Department of the Marine

### Objectives

1. To carry out a survey for 0- and 1-group mackerel.
2. To compare bottom trawl catch rates at agreed fixed stations with an Irish and Dutch research vessel.

### Narrative

*Scotia* sailed from Aberdeen at 1000 on 17 November and headed north towards the northern end of the trawl survey area. Throughout the survey a GOV trawl fitted with a 20 mm cod-end, heavy ground gear C, short (47 metre) sweeps, flown wings and Scanmar monitors to record headline height, wingend and door spread was used. As in 1991, when gear damage had been minimal, the ratio of warp length to depth was maintained at 3:1 plus one 50 metre length (in previous years it had been greater).

En route to the survey area *Scotia* developed gyro compass problems which could not be repaired *in situ*. This necessitated a return to Aberdeen on 17 November where the compass was fixed that evening before sailing again at 2000. The first trawl was made the following morning at 1000. Two stations were completed that day before severe weather set in to prevent further trawling until the following evening, when one more trawl was made. Poor weather conditions next day continued to hamper but not prevent work; three trawl hauls were made during which two of the four GOV trawls were irreparably damaged. During the remainder of the first half of the cruise high winds frequently intervened to prevent or reduce the number of hauls possible per day. Further gear damage was also sustained on several occasions but repairs were effected on board. A total of 21 hauls were made during the first half of the cruise of which four were foul or invalid. Radio contact was maintained with the Dutch research vessel *Tridens* to optimise area cover and to coordinate comparative trawling. *Scotia* docked in Cork for the half landing at 1200 on 27 November.

*Scotia* sailed from Cork at 1300 on 2 November. In view of a forecast of poor weather the following day, trawling was carried out through the night allowing three more stations to be completed before the weather broke the following day. During the gales *Scotia* anchored in the lea of Brandon Bay before recommencing trawling next morning. Weather conditions for the remainder of the cruise were less than ideal but did not prevent some trawling every day. Gear damage continued to be a problem during the second half of the cruise but the third GOV trawl survived

with several repairs until the penultimate day of the cruise. Belly lines were fitted to the third GOV early in the second half of the cruise and may have contributed to its longer survival. The fourth trawl was damaged on the evening of 5 December, the last possible day for trawling. During the second half of the cruise a further 24 trawl stations were completed of which three were foul. Despite persistent attempts, no radio contact was achieved with the Irish research vessel *Lough Foyle*. However, a few of the programmed Irish trawl positions were undertaken by *Scotia* so that some intercalibration of trawling performance may be possible. Despite weather and gear problems most of the survey programme was successfully completed and *Scotia* docked in Aberdeen at 1400 on 6 December.

Fishing and scientific gear were off-loaded in Aberdeen on the morning of 7 December and scientific staff disembarked at 1000.

## Results

Cruise tracks showing fishing stations are given in Figure 1.

On the trawl survey, a total of 45 hauls were made of which seven were foul or invalid. Four comparative hauls were made with the research vessel *Tridens*, while a further four hauls were made on Irish stations, one of which resulted in gear damage. Catches of juvenile mackerel in number per hour, by age group, are shown in Figures 2 and 3. First and second winter mackerel (0- and 1-group respectively) were patchy in distribution but present over most of the north-south range of the survey area. Catch rates of first winter mackerel were below average of the previous six years in the area surveyed. Their main centre of distribution was north west of Ireland, while smaller patches were found in the North Rona area and west of Galway Bay. By contrast, catch rates of second winter mackerel were the second highest in the seven year survey series and support last year's indication that the 1991 year class is strong. This year class was abundant in the St Kilda area and to the west of Galway Bay.

Otoliths from 489 mackerel were read at sea giving an overall age composition of sampled catches of:

Age group	0	1	2	2+
Year class	1992	1991	1990	<1989
Percentage	14	32	35	19

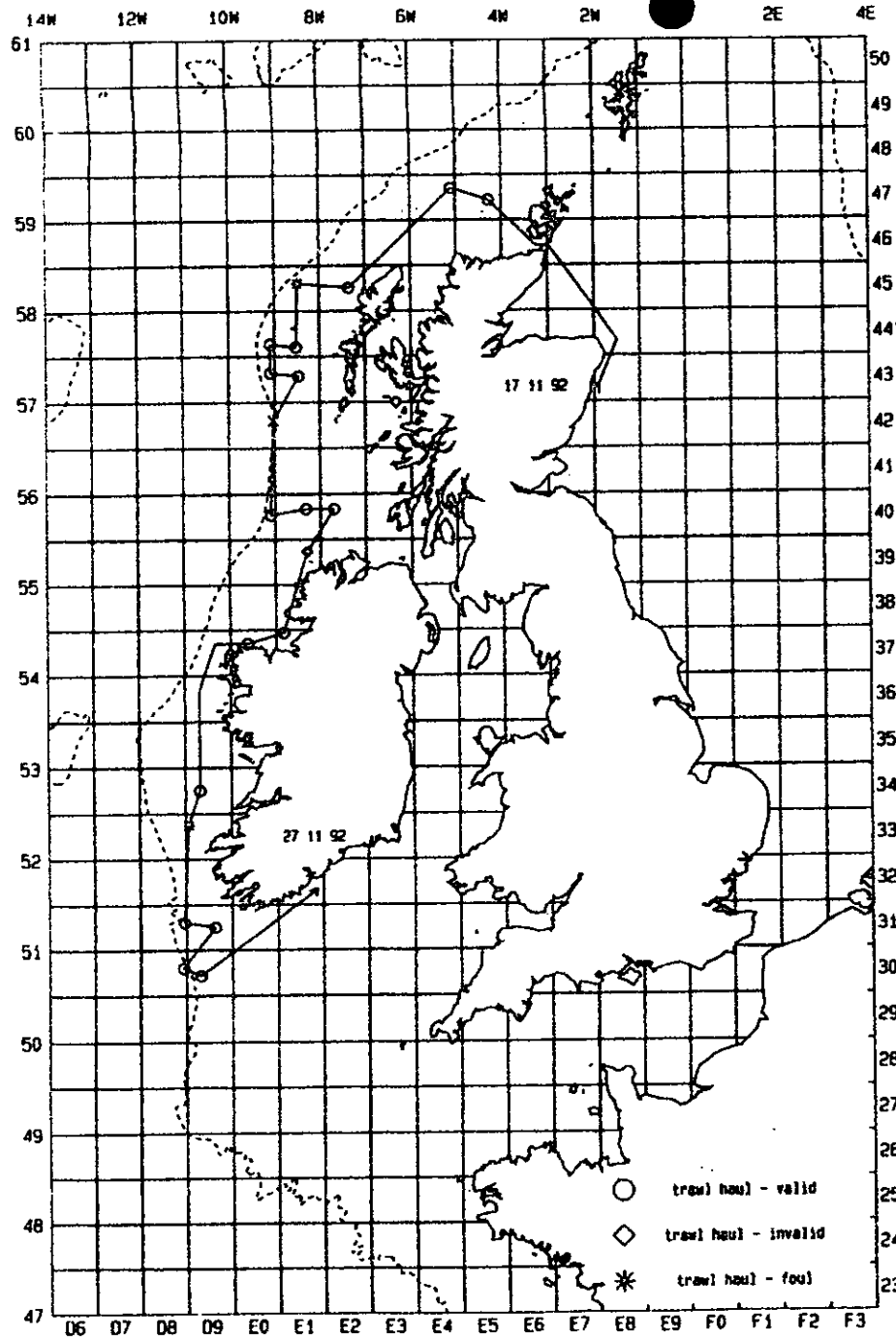
The visiting Irish scientist obtained useful information on the distribution, abundance, and age composition of juvenile argentinines within the survey area.

Sea surface temperature and salinity were logged throughout the survey.

M Walsh

8 January 1992

SCOTIA 15/92 MACKEREL RECRUIT SURVEY - CRUISE TRACK - PART 1



SCOTIA 15/92 MACKEREL RECRUIT SURVEY - CRUISE TRACK - PART 2

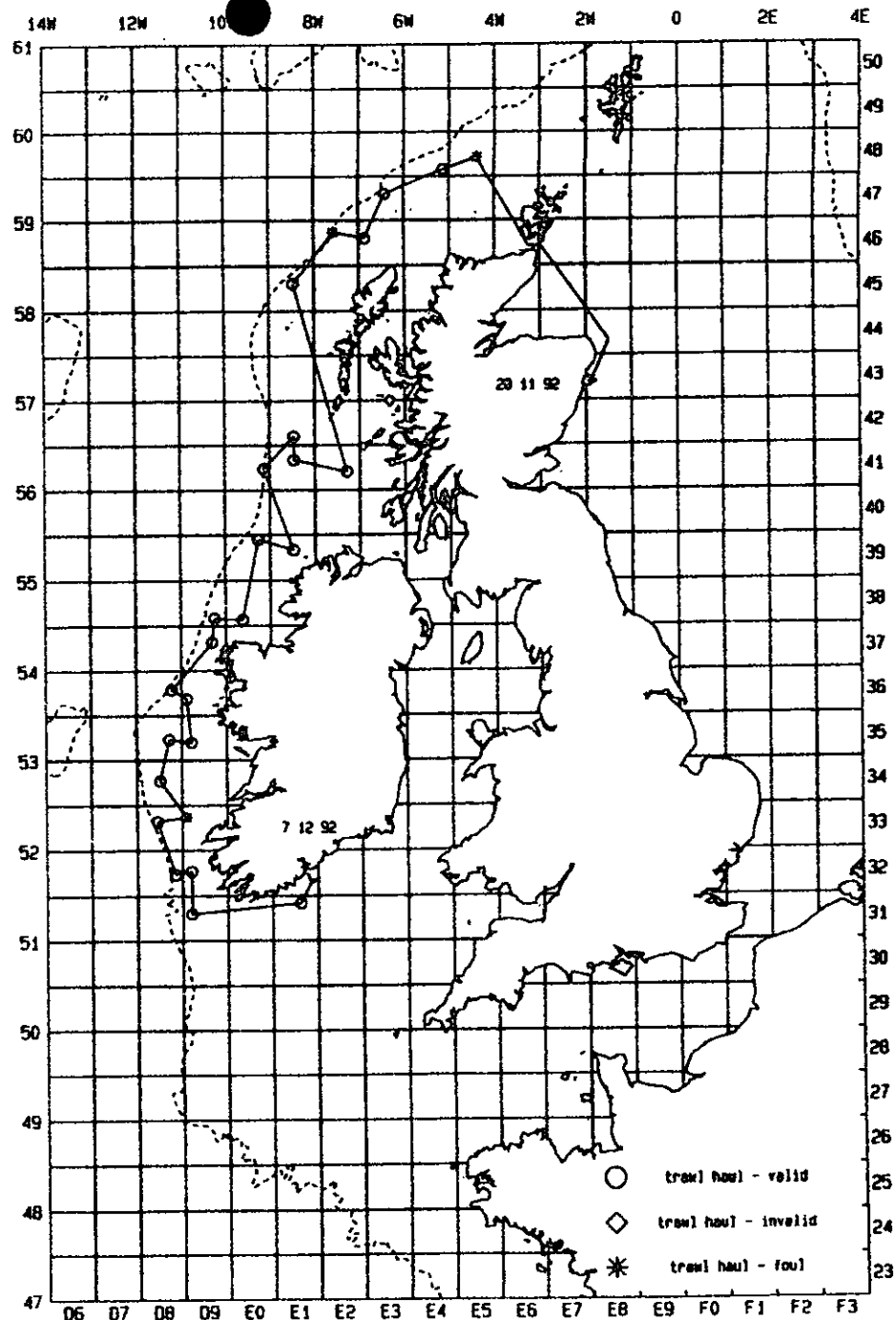


Figure 1

Figure 2

S15/92 Mackerel 0 gp nos/hr GOV

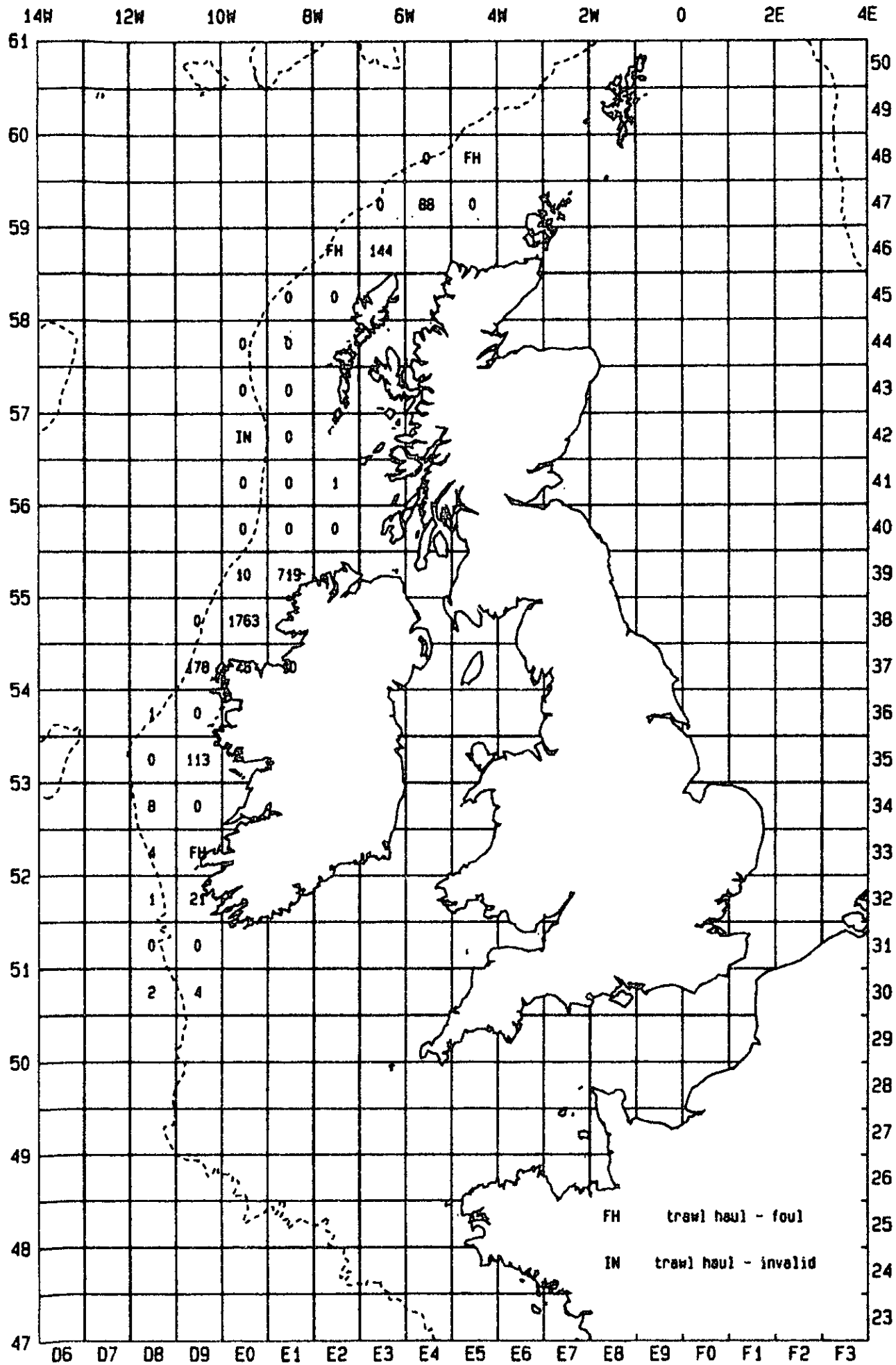


Figure 3

S15/92 1 gp Mackerel nos/hr GOV

