

R1/4

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FRV EXPLORER

CRUISE 1/82

1ER82

REPORT:

11 to 29 January 1982

OBJECTIVES

1. To carry out an echo-integrator survey for sprats in the western North Sea between the Moray Firth and Flamborough Head.
2. To identify the echo-traces using midwater trawls PT 154 (Young Gadoid Trawl) and Issac Kidd midwater trawl.

GENERAL

'Explorer' sailed from Aberdeen at 1300 on 11 January and sailed directly to Largo Bay in the Firth of Forth where the acoustic equipment was calibrated. The acoustic survey started at 0700 on 12 January with a widely spaced offshore grid working north into the Moray Firth. A more closely spaced inshore grid was then worked towards the south. 'Explorer' docked at Aberdeen for the half landing at 0930 on 21 January.

'Explorer' sailed at 1100 on 23 January after a 24hr delay caused by a boiler fault and proceeded to St Andrews Bay for calibration of the acoustic equipment.

A widely spaced offshore grid was worked south to Flamborough Head, followed by a detailed survey of the area around Flamborough in preparation for an intercalibration exercise with FRV 'Corella'. A successful intercalibration took place with Corella on 26 January in the area 54°05'N to 54°15'N and 0°20'E to 0°15'W, and consisting of approximately 6 hours steaming in close company, with Corella following 'Explorer' 1/4 mile eastern. The intercalibration exercise finished at 1600 and 'Explorer' started to work an inshore grid in a northerly direction. Unfortunately 'Explorer' encountered a northerly gale Force 9-10 and the echo-integration was suspended at 0130 on 27 January. 'Explorer' "dodged" north to the Firth of Forth arriving at 1800 on 27 January.

A further calibration took place in Largo Bay at 2200 on 27 January, followed by a north-south grid down to the River Tyne. 'Explorer' docked in Aberdeen at 0400 on 29 January.

RESULTS

The cruise track is attached along with an overall density contour chart for the total biomass encountered. 12 pairs of samples were taken with the midwater trawl PT 154 (fitted with a 12mm knotless codend) and the Issac

Kidd midwater trawl, ie each haul with PT 154 was followed by one with the Issac Kidd in the same area. The positions of the trawl hauls are presented on the cruise track.

The trawl hauls taken in the Moray Firth (E82/5, 6 and 7) contained sprat (modal length 7.5cm) mixed with a small proportion of herring (modal length 10.5cm). The Issac Kidd captured very little plankton in the Moray Firth.

Three trawl hauls were made between Aberdeen and St Andrews, the southern haul E82/2 consisting almost entirely of herring (modal length 11cm) with a few sprats (modal length 7cm). The more northerly two E82/3 and 4 consisted of almost pure sprats. The Issac Kidd captured a large quantity of plankton in the southern haul, mostly herring, larvae and euphausiids, in contrast to the northern stations at which the plankton catch was small.

A further three trawling stations were waked in the Firth of Forth. In the first (25 miles east of Moy Islands E82/1) a considerable quantity of herring larvae were encountered in the net by no larger fish were caught whereas the corresponding Issac Kidd haul caught very little plankton, only 2 or 3 euphausiids. The second and third hauls were made within the Firth and consisted of sprats (modal length 5 and 10cm) mixed with herring (modal length 11cm) and a few small whiting.

One trawl haul was made off the Farne Islands E82/9 in which no adult fish were caught, but a considerable number of herring larvae were meshed. The corresponding Issac Kidd contained a few herring larvae and euphausiids.

Two trawl hauls E82/10 and 11 were made in the vicinity of Flamborough Head. Both contained sprat (modal length 5cm) and very little else the corresponding Issac Kidd hauls were full of small sprats, herring larvae and shrimps.

All Issac Kidd samples ere preserved in Formalin for further analysis.

Samples of larvae from trawl hauls were preserved in alcohol for further analysis.

J.I. Edwards
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Seen in draft: T.H. Henderson, CO