R1/12

Not to be cited without prior reference to the Marine Laboratory, Aberdeen

FRV *Scotia*

Cruise 1397S Part I

REPORT

20-22 October 1997

Loading: Aberdeen
Unloading: Aberdeen

Personnel

A D McIntosh	HSO (in charge)
D C Moore	SSO
G Slesser	HSO
P Gillibrand	HSO
R D Adams	SO
F Brown	SO
M Mowat	PhD Student
M Lewis	University of Aberdeen

Objective

1. To sample sediments at two locations in the vicinity of the Captain Field and from the wider area trawl sites.

2. To trawl for *Nephrops* and other fish species in and around the same locations.

Out-turn days per project: 2 days CAP1

Narrative

After all scientific equipment had been loaded and all personnel were aboard, *Scotia* departed from Aberdeen at 1200 hours on 20 October and made passage for the outer Moray Firth where sampling for sediment, south east of the Captain Field commenced at 2000 hours. Sixteen stations were occupied before moving to the west of the field where a further sixteen sediment stations were occupied. The sediment sampling programme was completed at 0700 hours on 21 October.

Trawling for locally available commercially exploited fish species within the established FEPA exclusion zone commenced at 0800 hours on 21 October. Two trawls were taken on the western side of the field, covering an area sampled during a previous survey, and three trawls were taken south east of the field. A further three trawls were taken on the western, northern and eastern edges, about 1 km outside of the FEPA exclusion zone.

The fishing was completed by 0200 hours on 22 October, when *Scotia* made passage for Aberdeen, docking at 0900 hours when all samples collected were transferred to the Marine Laboratory and suitably stored for subsequent analyses.

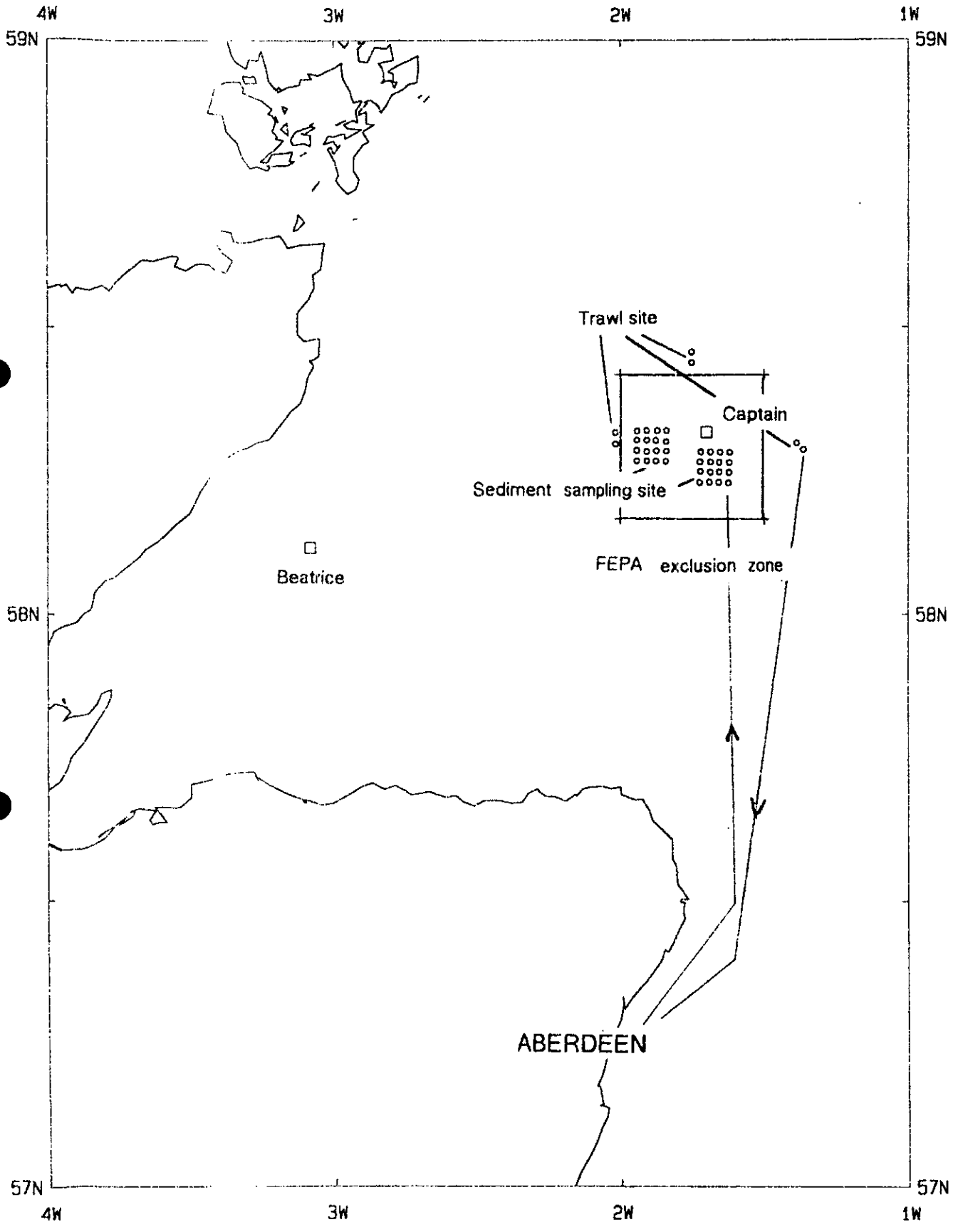
Results

Sixteen stations were occupied at two locations from where sediments were collected. Core samples were taken from every second station and split into 2 cm profiles. In addition, sediments were taken from the trawl sites outside the zone. This generated a total of 96 sediment samples. Fish species obtained from the areas fished and sampled for subsequent analyses included *Nephrops*, haddock, plaice, lemon sole, witch and monk.

Results from taste panel assessment and from hydrocarbon analyses of fish and sediment samples will become available in due course.

A McIntosh
20 November 1997

Captain Field Survey - 20-22 October 1997



R1/12

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FRV *Scotia*

Cruise 1297S

REPORT

22 September - 13 October 1997

Personnel

R D Galbraith	SSO (in charge)
G I Henderson	SO
R J Kynoch	SO
P J Barkel	PTO
N S Collie	PTO
P Mc Garr	SAMS
L Bullough	Student
S Bowe	Student
L Paterson	Student
S Taylor	Seabirds at Sea Team

Fishing Gear: Deep water survey trawl + heavy Polyvalent doors (P3 and P4)

Objectives

1. To carry out detailed engineering performance measurements on above gear at depth.

2. To investigate selectivity of current regulation cod-end mesh size (100 mm) on deep water species.

3. To obtain video film of the behaviour of these species within the trawl cod-end.

4. To record water temperature at depth during fishing hauls and relate to catch size/species.

5. To carry out three hauls for *Nephrops* samples in Burra Haaf on passage.

Out-turn days per project: 22 days IAI1

Narrative

Scotia left Aberdeen on 22 September and steamed north to the Shetland Isles where a crew member was landed by boat at Scalloway the following day. Two hauls for *Nephrops* samples were made in Burra Haaf before the vessel headed west for the south side of the Wyville-Thomson ridge. Work commenced there on 24 September and continued until 26 September when *Scotia* moved to grounds WNW of Sulisker. Bad weather stopped work on 28 September and the vessel dodged until 30 September when fishing was resumed. While hauling the trawl the failure of both warps at joining splices resulted in all the fishing gear, together with a complete set of Scanmar monitoring equipment on net and doors, being lost in 825 metres

(450 fathoms) of water. By combining the two remaining lengths of warp on one winch *Scotia* was able to deploy creepers at this depth and a search was immediately commenced. Bad weather again disrupted work for a time on 1 October but the gear was eventually recovered on the evening of 2 October when *Scotia* set off for Stornoway.

Replacement lengths of warp were delivered to the vessel on 3 October but local riggers were not able to splice the wire. Consequently *Scotia* was required to put in to Ullapool on 5 October when riggers sent from Aberdeen carried out the work. Steaming south that evening the vessel sought shelter overnight in Loch Snizort but was able to resume passage next morning and work recommenced on the evening of 6 October on the Vidal Bank SW of Barra Head. Operations moved north to the St Kilda area on 8 October but the failure of winch guiding-on gear required *Scotia* to return to Stornoway on 9 October to pick up a replacement part sent from Aberdeen. The vessel then steamed overnight to WNW Sulisker grounds where work continued until the evening of 11 October when *Scotia* set off for Aberdeen. The vessel entered port on the evening of 12 October where fishing gear, instrumentation and samples were unloaded the following day.

Results

1. Two partly instrumented and eleven fully instrumented hauls were carried out in depths ranging from 600 to 875 metres using warp lengths from 1,200 to 1,800 metres (maximum available). Apart from one loadcell which flooded all new deep water instrumentation performed well.

2. Four hauls were made with a 40mm mesh polyethylene cover supported by a 3 metre diameter hoop but this operation was discontinued on safety grounds. An unsupported 20 mm mesh polyamide cover was used on another twenty three hauls.

3. The new deep sea cod-end video system proved a success and 39 hours of video tape were recorded under various conditions of visibility.

4. Water temperature at fishing depth was measured for all 30 deep water hauls.

5. Two hauls carried out at Burra Haaf provided an adequate number of sample *Nephrops.*

All results will be analysed in the Laboratory.

R D Galbraith
5 November 1997

Seen in draft: G Jack