

R1/12

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

FRV *Scotia II*

Cruise 0498S

REPORT

9 - 16 March 1998

Ports

Loading: Aberdeen
Unloading: Aberdeen

Personnel

A McIntosh	HSO (in charge)
D Moore	SSO
C Robinson	SO
N Brown	ASO
G Packer	SGB
L Carles	Visitor

Fishing Gear

Granton 48' Trawl (BT 101) (or "monk" trawl) with tickler chains

Objectives

1. *Braer* oil spill effects on hydrocarbon loadings in sediments.
2. *Braer* oil spill effects on biochemical measurements and histopathology in fish.
3. Sampling for *Nephrops* in the Burra Haaf and Little Halibut Bank areas.
4. *Braer* oil spill effects on macrobenthos in the Burra Haaf area.

Out-turn per project: 8 days BIH1;

Narrative

After all gear and equipment had been loaded and secured, *Scotia II* departed from Aberdeen at 1000 on 9 March and made passage north to the first sampling site on the Little Halibut Bank. Two trawls were taken to provide a sample of common dab (*Limanda limanda*). Sediments were sampled at the start, mid and end points of this and subsequent trawl tracks. A further two trawls were taken at the north side of the Bank to provide a sample of *Nephrops*. With impending adverse weather, *Scotia II* then made passage for the south west mainland of Shetland where, during 10 March, nine stations were occupied and provided sediment samples taken by Craib corer, which were divided into 2 cm sections for total hydrocarbon concentrations. Three stations were sampled for macrobenthos before further trawl stations were occupied to provide

samples of *Limanda* and *Nephrops*. Due to worsening weather and the forecast of northwest gales, *Scotia II* made passage for the east side of Shetland and then moved north to the trawling site off Unst on 11 March, where sufficient samples for the purpose were obtained.

Due to worsening weather, slow passage was made south where, on the morning of 12 March, sediments were sampled off Sumburgh Head and further macrobenthos stations were occupied before *Scotia II* moved to the trawling site off Vaila, where sufficient samples of *Limanda* were caught. The sediment sampling programme continued and on the morning of 12 March, further macrobenthos stations were occupied, with one hour lost to weather. On completion of these stations, *Scotia II* moved south to the trawling site south off Sumburgh Head. Further sediment sampling continued overnight. Despite the loss of the bow thrust facility for position holding while sampling, the core sites and the remainder of the sediment sample sites were successfully completed during 13 March, and the trawl sites at south east Fair Isle and 110 Mile Hole were successfully occupied. The remainder of the sediment stations were completed by 0800 on 15 March, when passage was made south for further trawling for *Nephrops* samples at the Little Halibut Bank site. No *Nephrops* were obtained from this trawl and *Scotia II* made passage for the Moray coast where a further trawl was taken before making passage back to Aberdeen, when docking was completed by 0530 on 16 March and all personnel and scientific gear transferred to the MLA.

Results

All the objectives of the cruise were met. All sediment and fish samples taken were treated according to standard protocols. A total of 68 (single grab) stations, 18 core stations, 21 grabs associated with trawl sites and 11 macrobenthos sampling sites were occupied providing a total number of 163 sediment samples for hydrocarbon chemistry. A total of 11 stations for macrobenthos were sampled providing a total of 51 samples for analysis. A total of seven trawl sites were occupied providing 140 samples of dab (*Limanda limanda*) for biochemical, histological and hydrocarbon analyses. Three trawls were taken in the Burra Haaf area providing an adequate sample of *Nephrops* for sensory assessment and hydrocarbon chemistry. A further trawl was taken in the southern Trench area, providing a sufficient number of *Nephrops* for sensory assessment, experimental work and chemical analysis. Analyses of all these samples will be carried out in the Marine Laboratory, and elsewhere, and the results presented in due course.

A McIntosh
20 March 1998

Seen in draft: P Ramsay, Master

Sediment Sampling Positions - Scotia II - March 1998

