

R1/4

IN CONFIDENCE: Not to be quoted without reference to the laboratory

FRV 'Explorer'
Additional cruise

Cruise report

14 - 19 April 1983

Objectives

1. To undertake an underwater closed circuit television survey of the Guillam Bank dump site and surrounding area.
2. To recover samples of dumped electrodes using an Agassiz trawl.
3. To assess whether dumped electrode material will interfere with Nephrops trawling operations.
4. To log the position of the dumping vessel "Kindeace" during actual dumping operations.

Narrative

'Explorer' left Aberdeen during the afternoon of 14 April and headed for the Moray Firth. During passage to the Moray Firth the main engine developed a fault, and it was necessary to anchor off Cruden Bay to undertake essential repairs. We remained at anchor at this location until the afternoon of 15 April. We then resumed our journey to the Moray Firth, arriving at the Guillam Bank dump site during the evening of 15 April.

Sampling commenced at 0000hrs 16 April and the TV sledge was launched. Sixteen transects were surveyed on 16 April, and a further six were undertaken on 17 April. The TV survey was then terminated, having achieved adequate coverage of the dump site area. Later on 17 April the Agassiz trawl survey was commenced. Nineteen trawls were undertaken on 17 April and a further 10 undertaken on 18 April. The Agassiz trawl survey was then terminated. Two hauls were then made with the Jackson prawn trawl. The first trawl encountered hard ground, and when recovered the trawl was extensively damaged. Prior to undertaking the second haul, using a replacement trawl, a safe tow was identified using the vessel's echo-sounder. The haul was completed successfully and the trawl recovered undamaged. It was decided, after consultation with the Fishing Mate, that 'Explorer' was unsuitable for this comparatively small trawl, and that further hauls were likely to damage the trawl. The echo-sounder survey had indicated that there were extensive areas of hard ground in this area, and to effect complete coverage of the area with a trawl would have required extensive local knowledge. The trawl survey was therefore terminated.

Between trawl hauls the dumping vessel 'Kindeace' arrived at the dump site to undertake a routine dumping operation. With the agreement of the skipper of the 'Kindeace', 'Explorer' followed the dumping vessel during dumping operations, and logged the approximate position of the 'Kindeace' during the dump. Due to mechanical failure of the hydraulic doors in the forward hold, 'Kindeace' was unable to complete dumping operations during the period of observation. Whilst repairs were effected 'Explorer' returned to trawling. Whilst engaged in the second haul 'Kindeace' contacted 'Explorer' and indicated that dumping operations were complete. 'Kindeace' then returned to port. Upon completion of the second haul 'Explorer' departed for Aberdeen arriving on 19 April. The ship was unloaded and scientific staff left the vessel 19 April.

Results

1. Cruise objective 1 was achieved. A series of 22 transects was surveyed using the underwater closed circuit television camera. Electrode waste was observed during seven of the transects. The location of the transects was logged using the vessels Decca plotter. The majority of the waste observed outwith the boundaries of the designated spoil ground was located to the south and west of the dump site. Waste-like material was observed in one area to the north east of the dump site, but it was not possible to substantiate this videorecording with still colour photographs.
2. Cruise objective 2 was achieved. A series of 29 Agassiz trawls was completed in the survey area. All were located outwith the boundaries of the designated spoil ground. Waste electrode material was recovered from four of the Agassiz trawls. Three of the four trawls were undertaken in areas to the south and west of the dump site. The fourth ran parallel to the east boundary of the dump site. The electrode waste recovered included large pieces of anode waste.
3. Cruise objective 3 was abandoned because the Jackson prawn trawl was unsuitable for use on 'Explorer', and it was considered undesirable to fish extensively in this area without extensive knowledge of seabed conditions. The first trawl was extensively damaged. The second was recovered intact, and the total catch was approximately one basket of mixed benthic fauna and a number of sprats. There was no evidence of waste material in the trawl.
4. Cruise objective 4 was achieved. The Decca plotter log of the 'Kindeace' movements during dumping operations indicated that the 'Kindeace' did not remain in the designated disposal area for the whole of the dumping cycle. However the position logged was that of 'Explorer' and not 'Kindeace'. It is therefore not possible to state that dumping was definitely undertaken outwith the boundaries of the designated spoil ground. Dumping was undertaken on the west side of the spoil ground.

Derek Seward
15 November 1983