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FRV *Scotia*

Cruise 1203S

REPORT

31 July – 26 August 2003

Personnel

K A Coull	(In charge)
S P R Greenstreet	
M R Robertson	
L Robinson	
T Blasdale	(31 July – 11 August)
H Fraser	
M Mathewson	
J Mills	
M Gault	(12-26 August)
I Penny	
L Smith	(12-26 August)
R Milne	(31 July – 26 August)

Fishing Gear: GOV Trawl BT 137

Objectives

1. To undertake an internationally co-ordinated demersal trawling survey of the North Sea.
2. Obtain temperature and salinity profiles at each trawling station.
3. Carry out benthic sampling along the track of as many trawl stations as possible.
4. Obtain (20 * 25 litres) low nutrient seawater from statistical rectangle 45F1/

Out-turn days per project: 21 days – MF01Tb, 6 days C735

Narrative

Sailing was delayed due to fault with the scanmar logging PC. *Scotia* sailed from Aberdeen at 1400 on 31 July and commenced trawling at the station east of Aberdeen. Two hauls were completed at this station as part of the comparison work between done on groundgear A and groundgear B. Benthic sampling was completed satisfactorily during the night and all equipment proved to be effective. Three further stations (off the Northeast coast of Scotland) were completed with both sets of groundgear before the vessel continued into the Moray Firth area. *Scotia* then worked in a northerly direction, completing stations in the Moray Firth, Orkney and west Shetland area before moving to stations east of Shetland on the morning of 6 August. The vessel then worked in an easterly direction, entering Norwegian waters later the same day. The vessel then worked in a southerly direction and completed the stations on the northern part of the survey area before docking in Aberdeen on 11 August to pick up scientific equipment. *Scotia* sailed again at 0930 on 12 August and resumed work at the station off Montrose then continued in an easterly direction. Poor weather conditions on 14 August prevented the deployment of benthic and hydrographic equipment at three trawl stations. Stations in the Norwegian and Danish sectors were completed before *Scotia* docked in Esjberg for a scheduled break on 19 August. On sailing

the following day, *Scotia* had to spend a short time at anchor to deal with a motor propulsion unit difficulty. Repair was completed to the main engines but resulted in the bow-thruster being out of action for a period. The vessel then worked westerly, completing the stations in the German and Dutch sectors on the morning of 23 August. After completing the survey area on the afternoon of 25 August, *Scotia* proceeded to Aberdeen, docking at 0930 on the morning of 26 August.

Results

The survey area was covered successfully with a total of 96 valid trawls completed. The trawl haul at station 49E7 was regarded as a foul haul and with the loss of time needed to repair the net, it was not possible to carry out a repeat tow.

The number of 0-group haddock and whiting caught per 30 minute (standard haul duration) in each statistical rectangle are shown in Figures 1 and 2 respectively. Where repeat tows with a different ground gear were done, the figures for each gear are given.

All length frequency data, haul summary information and age data for cod, haddock, whiting, saithe, Norway pout, sprat, herring, and mackerel were punched at sea and stored on micro computer. The additional biological data collected to meet the EU Data Regulation 1639/2001 were punched at sea.

The Scanmar system was used relatively successfully throughout the cruise to monitor headline height, wing spread, door spread and distance covered during each haul.

The thermosalinigraph was run continuously throughout the cruise.

Water samples were collected from statistical rectangle 45F1 for use in various projects in the Laboratory.

Forty GFS stations were sampled with benthic sampling equipment. At each of these 40 stations a 2 m epi-benthic dredge was towed for 5min along the seabed. The epi-benthos samples obtained were passed through 5 mm and 2 mm sieves. The 5 mm sieve fraction was sorted and processed as far as possible on board the vessel, with the organisms captured identified to species, measured and weighed. The 2 mm sieve fraction, and organisms from the 5 mm sieve fraction that could not be identified, or which were too small to be weighed on board, were preserved in 4% formalin for processing back at the laboratory. Samples of benthic infauna were obtained using a 0.25 sq.m Box Core, deployed twice at each station, a and 0.1 sq.m van Veen grab, deployed five times at each station. Sediment samples were collected from each of the box core and grab samples. Samples of benthic meiofauna were collected from both of the box core samples and from two of the grab samples. The Box core samples were passed through 4 mm and 1 mm sieves, while the grab samples were passed through a sieve tower consisting of 4 mm, 2 mm, 1 mm, 0.5 mm and 0.25 mm sieves. All the infauna sieve fractions from each sample were preserved in 4% formalin solution for processing on return to the laboratory.

At the last GFS station fished in each day (always the first station sampled using the benthic samplers in each night) samples of Norway pout, grey gurnard, common dab, long rough dab, plaice and lemon sole were collected for diet and food consumption analysis back at the laboratory.

K A Coull
6 October 2003
Seen in Draft: Captain Peter Ramsay, OIC, *Scotia*

Scotia Groundfish Survey - August 2003

0+haddock per 30 minutes

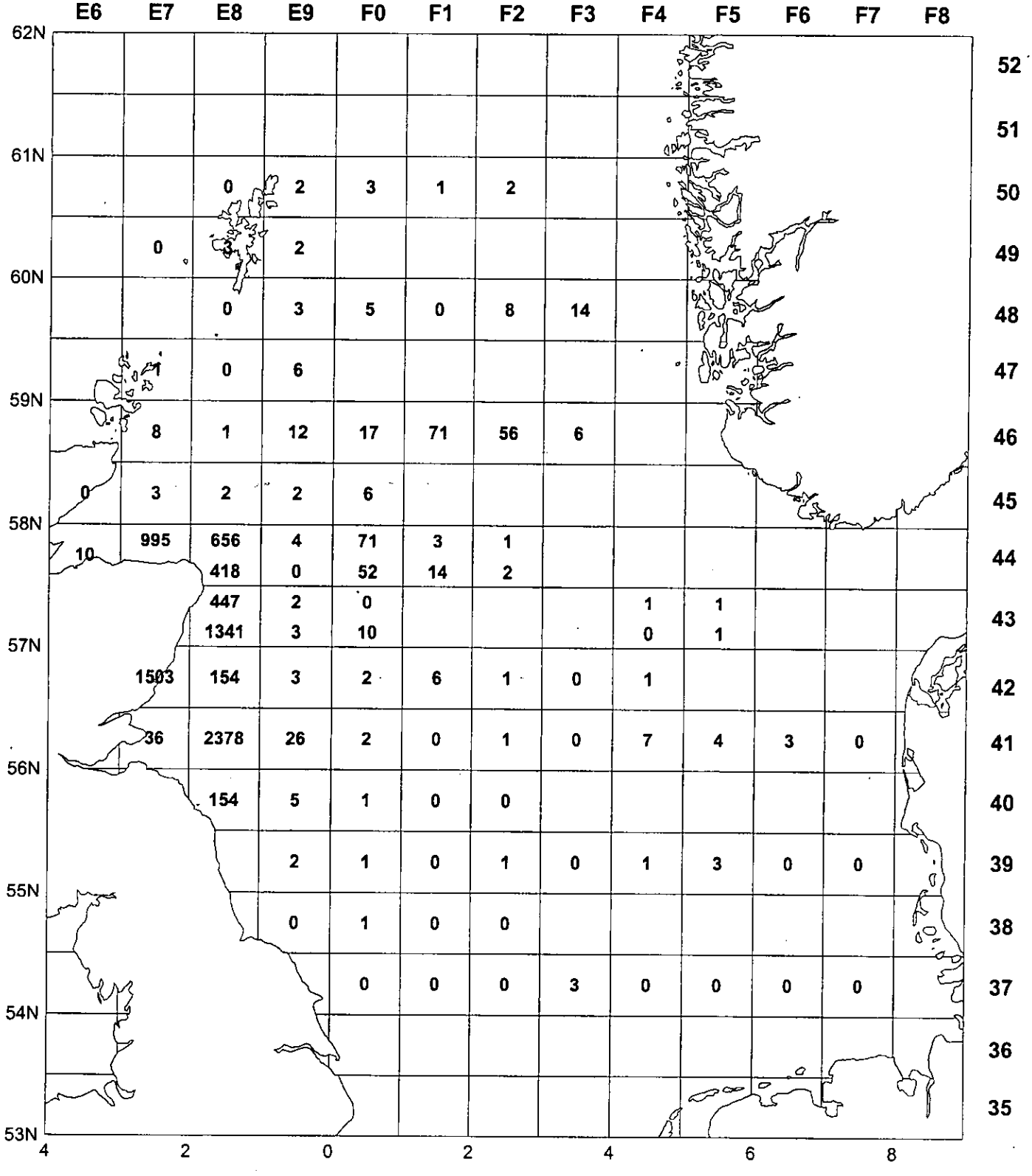

Figure 1

Scotia Groundfish Survey - August 2003

0+whiting per 30 minutes

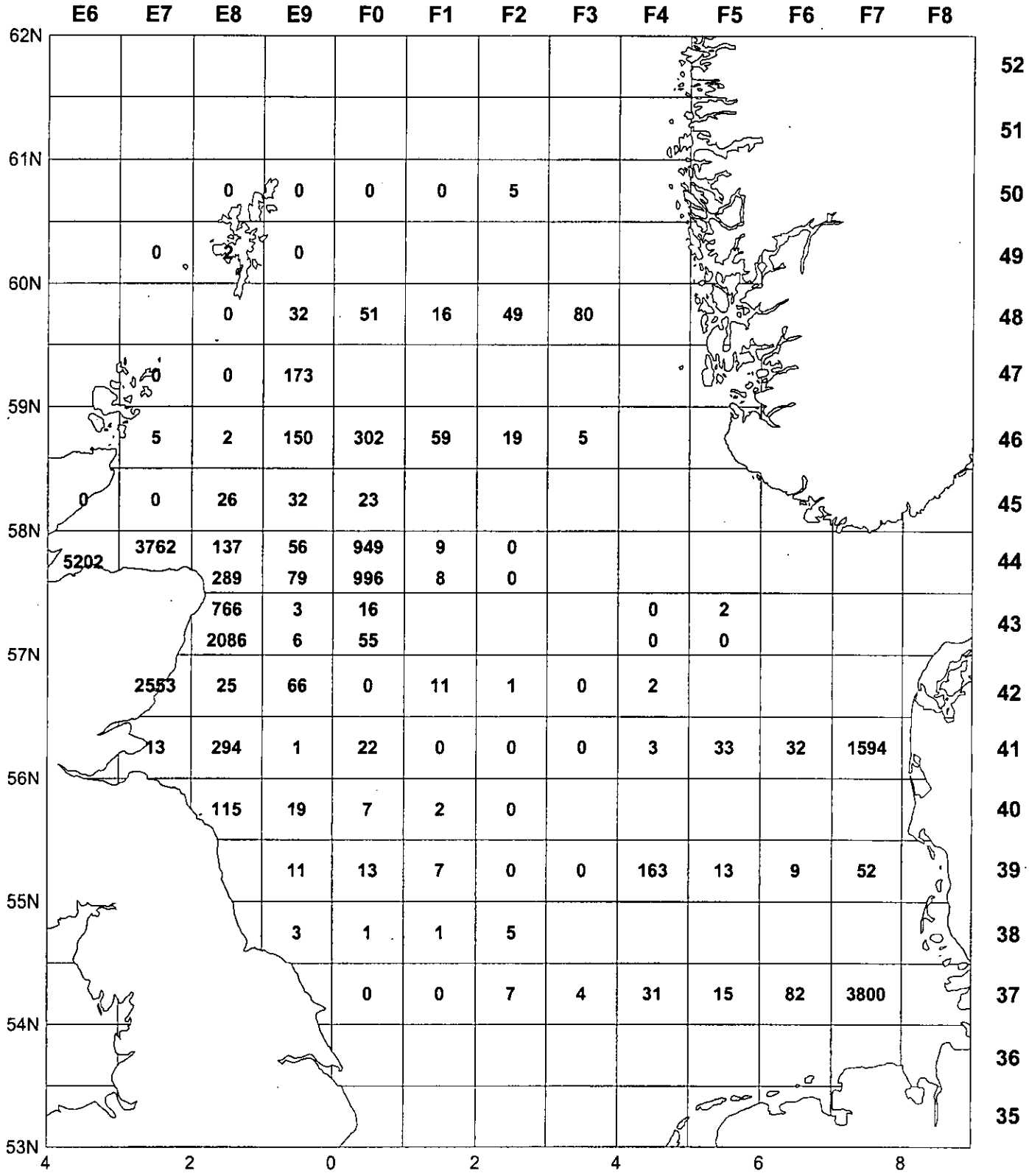

Figure 2

Scotia Groundfish Survey - August 2003

Cruise Track - Station Positions