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FRV *Scotia*

Cruise 0203S

## **REPORT**

15 January – 3 February 2003

A W Newton                      In charge

A P Robb

K Peach

E Armstrong

M C Mathewson

C Millar

O Goudie

J Mair

### **Objective**

To take part in the ICES International Bottom Trawl Survey in the North Sea.

**Out-turn days per project:** MF01TB 20

### **Narrative**

*Scotia* sailed from Aberdeen at 1100 hours on Wednesday 15 January. The vessel sailed into a SW 9/10 gale and with the weather proving too rough for work, the first day of the survey was spent dodging in Montrose Bay. The survey began in earnest on the Tuesday off the Aberdeenshire coast and the original plan was to work eastwards and then north. However, the forecast of severe weather in the central North Sea forced a change in plans and it was decided to work directly northwards where there was the prospect of better weather. Accordingly *Scotia* gradually worked northwards towards the Shetland Isles. A port call was made at Lerwick on Friday 24 January. After sailing from Lerwick on Saturday the survey continued southwards and thence eastwards. Almost the whole period of the survey was dogged by bad weather, either northerly or westerly gales, and even at the end of the survey SW 7/8 gales hindered operations. However, at this stage some protection from the gales was offered by the Scottish coast and *Scotia* managed to complete the survey before docking in Aberdeen at 2400 hours on Sunday 2 February.

### **Results**

A total of 53 half-hour hauls were made using the GOV trawl. In the southern part of the survey area the ground gear consisted of the standard set of 152 mm rubber discs, but these discs were replaced with 305 mm bobbins for the stations in the northern part of the North Sea. Short sweeps (60 m) were used for all tows. The trawl gear on each tow was monitored for headline height, wing-end and door spread. Table 1 shows the preliminary indices from the Scottish component of the international survey. The index is based on the numbers of fish caught per hour below a pre-defined length selected as a probable delimiter of 1+ fish. These indices are very provisional and will be revised once all the data from the other participating nations has been submitted at the end of February.

Table 1. Preliminary Indices from the Scottish Survey

Survey Year	Cod	Haddock	Whiting	N pout	Herring	Sprat	Mackerel
1999	0.4	122	802	1302	14	136	50.8
2000	5.8	3378	1908	5497	426	24	39.6
2001	10.1	919	558	1670	479	253	3.7
2003	0.2	97	270	1453	160	519	0.1
Mean 1978-2000	9.8	704	593	3163	1859	1267	53

Overall the level of fishing was extremely poor. For all the major species the 2003 index was below the long-term average. Whilst the 2003 indices will be heavily revised when all nations data are incorporated this is the first indication that a cod recovery has not yet begun and that haddock may be experiencing another year of poor recruitment. Interestingly some species show an increase in abundance. For example, anchovies, which have not been observed in the Scottish survey area in recent years, were caught with frequent regularity on this survey. Undoubtedly changes are occurring in the species composition in the North Sea.

In support of the cod recovery plan samples were obtained from 113 cod for further analysis in Aberdeen. Another 80 samples were obtained for further investigation at Lowestoft under the EU contract RASER (Reproduction and stock evaluation for recovery).

54 DNA samples were taken from 20 fish species to aid the development of DNA probes in association with seal diets at the Marine Laboratory.

In accordance with the EU Data Collection Regulation (EC 1639/2001) concerning the triennial review of length, weights, maturity and age Table 2 lists the species that were sampled during the survey. The results will be combined with data from other, future surveys in order to provide a re-analysis of growth parameters in 2004.

Table 2. Species examined for growth parameters

Species	Number	Species	Number	Species	Number
Cod	123	Lemon sole	442	<i>R brachyura</i>	1
Haddock	954	Plaice	236	<i>R radiata</i>	34
Whiting	790	Turbot	3	<i>R montagui</i>	23
Saithe	85	Halibut	1	<i>R naevus</i>	8
N pout	279	Angler	13		

101 hauls were made with the Methot net in order to obtain an estimate of the number of pre-metamorphosing herring larvae.

Top and bottom temperatures, salinities, phosphates, nitrates and silicates were taken at all trawling stations using a combination of a Seabird CTD and reverser bottles. In addition, the thermosalinograph was run continuously during the survey for data on the surface water.

A W Newton  
17 March 2003

Seen in Draft: Captain P Ramsay, OIC *Scotia*

### SCOTIA VESSEL

Programmes - Mr J A Morrison for approval. Reports - Mr J A Morrison for approval.

Issue two copies of Record of Haul and Station Numbers pro-forma with Scientist-in-Charge's copy of *Scotia* and *Clupea* programmes.

Two xerox copies of track chart for reports to be sent to Dr L Rickards.

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### PROGRAMMES ONLY

#### Lab staff

Mr J T M Hunter  
Mr T Reid  
Mr P J Copland  
Mr J Dunn  
Mr A Beaton  
Mr G Howard  
Mr S Halewood  
Security

#### Non-lab staff

~~Island Cmdr Faroes (Faroes only)~~  
~~Flag Officer, Denmark (Danish part of N Sea only)~~  
Coastguard  
Dr J Baxter

### PROGRAMMES AND REPORTS

#### Lab staff

Mr J A Morrison  
Capt R Denholm  
Mr R S T Ferro ) Fish Man team  
Mr C Hall ) progs only  
Dr R M Stagg  
Dr C Moffat  
Mr M R Heath  
**Mr A Macdonald**  
Mr R D Galbraith  
Ms S Hughes (+ additional copy of track chart  
of reports only)  
Mrs E Morrison  
CO/OIC of Vessel (*Scotia*) (to be faxed)  
Library (2)  
File

#### Non-lab staff

~~Library, Danmarks Fisk (reports only)~~  
~~Mr J Mortensen (Faroes only)~~  
~~Mr A Souplet (Fishing Cruises only)~~  
~~Dr S Ehrich (Entering German Waters) (reports only)~~  
W J McCurdy, Belfast  
Technical Director, SFIA (J E Tumilty)  
Dr L Rickards  
Dr I Joint  
Director – Havfor Inst, Norway  
Dr S Ehrich  
Monsieur le Chef du dépt, Nantes  
Mr J C Brabant  
Mrs van Duyvenvoorde  
Dr J G Gordon  
Dr J Molloy  
R de Clerck  
Mr B Stewart  
Capt J Cannan (*Scotia* and *Clupea* only)  
Controller Coastal Ops - A Stewart  
Dr P Grieg-Smith  
Mr H C Boyar  
Dr R J A Atkinson  
Mr H i Jákupsstovu  
Mr C Bullimore (To be faxed: 01923 846392)

#### Laboratory Personnel on Vessel

A W Newton                      C Millar  
A P Robb                         O Goudie  
F Armstrong                    J Mair  
K Peach  
M C Mathewson

#### Fishery Officers at

Aberdeen  
Lerwick