

R1/12

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

FRV *Scotia*

Cruise 0403S

## REPORT

28 February – 24 March 2003

### Personnel

K A Coull	(28 Feb – 20 Mar)
C G Davis	
J Mills	(28 Feb – 20 Mar)
T Blasdale	
R Watret	(28 Feb – 20 Mar)
M Gault	(28 Feb – 14 Mar)
M Mathewson	(13 Mar – 20 Mar)
S Halewood	(28 Feb – 20 Mar)
I Gibb	
M Yoneda	
F Burns	(20 Mar – 24 Mar)

### Objectives

1. Demersal trawling survey of the grounds off the north and west coasts of Scotland and Irish Sea,
2. To obtain temperature and salinity data from surface and seabed at each trawling position.
3. To collect information on the distribution and reproductive development of cod.
4. To tag cod in the Clyde area for investigations of their movements.
5. Recording of EM950 Multibeam Swathe Bathymetry data during all gear tows and recording of multiple frequency acoustic Echosounder integration data for the CATEFA project.

**Out turn in days per project:** 20 days MF01Tc, 5 days MF0462

### Narrative

*Scotia* sailed from Aberdeen at 1300 hours on 28 February and proceeded towards the stations off the north coast of Scotland. Trawling commenced at 0800 hours the following morning on the station west of Orkney. With favourable weather conditions, the vessel worked stations on the northern edge of the survey area and then on to the stations west of the Hebrides. Work continued uninterrupted on the outer stations until the evening of 5 March, when, with stronger winds forecast for a few days ahead, the opportunity was taken to work on the inshore stations. With the stations in the South Minch and North Minch areas being completed by the evening of 8 March, *Scotia* then proceeded to the Clyde area. Poor weather conditions delayed arrival on station until later the following morning. With two survey stations completed, the rest of the day and the following day was spent on obtaining live cod for tagging purposes and further samples for biological work. Work on the survey stations resumed on the morning of 11 March at the stations in the Irish Sea region. Eight stations were completed before *Scotia* called into Dublin on the night of 12 March for the half landing.

On sailing from Dublin at 0900 hours on 14 March, *Scotia* continued working the Irish Sea stations until the evening of 15 March. With all stations in the southern part of the survey area completed, the opportunity was taken to move overnight to the northwest of Ireland where eight additional stations were completed in an area identified as a mackerel recruitment area. With this work completed, the vessel then carried out work in the Tiree, Skerryvore, Gairloch and Summer Isles regions in order to obtain cod samples for tagging as well as additional biological work.

*Scotia* called into Loch Broom on the morning of 20 March in order to carry out a change in scientific personnel. Once personnel change-over had taken place, *Scotia* undertook survey work in the North Minch area for the remainder of the day. Repeat survey stations and some extended northern stations were surveyed during the next 36 hours, with the vessel tasked to obtaining cod samples in waters to the west of Orkney for the remainder of the cruise time, before *Scotia* made way for Aberdeen.

*Scotia* docked alongside Aberdeen on the morning of 24 March.

## **Results**

All survey stations were completed and an additional three, on the northern edge of the survey area, and a further eight, off the northwest of Ireland were also done. A total of 104 hauls, comprising 74 survey stations and 30 biological hauls was achieved.

Average number of I-group haddock and whiting caught per hour in each statistical rectangle are shown in Figures 1 and 2 respectively. While the number of I-group haddock encountered were below the recent ten-year average, one haul in the extended survey area (37D9) produced relatively high numbers. The numbers of I-group whiting encountered were relatively close to the recent ten-year average.

All otoliths collected for cod, haddock, whiting, saithe, Norway pout, herring, mackerel and sprat were aged at sea. All haul summary data, length frequency and age data were punched at sea and stored on computer disk. Additional information on, total weight, gutted weight, sex and maturity were collected as required for the EU Data Directive 1639/2001.

The ship's Thermosalinograph was not operational during the cruise.

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

The Simrad EM950 Multibeam Swathe Bathymetry system was operated during each haul.

## **Additional Biological Sampling**

A total of 281 cod were sampled from both standard trawl locations and all additional tows throughout the survey. Tissue samples were removed and fixed in 100% ethanol for genetic studies. Otoliths were extracted for microchemistry and ovary samples were removed and fixed for reproductive analysis.

A total of 700 haddock and 653 whiting were also examined for a various morphological parameters with skin samples being removed for genetic analysis.

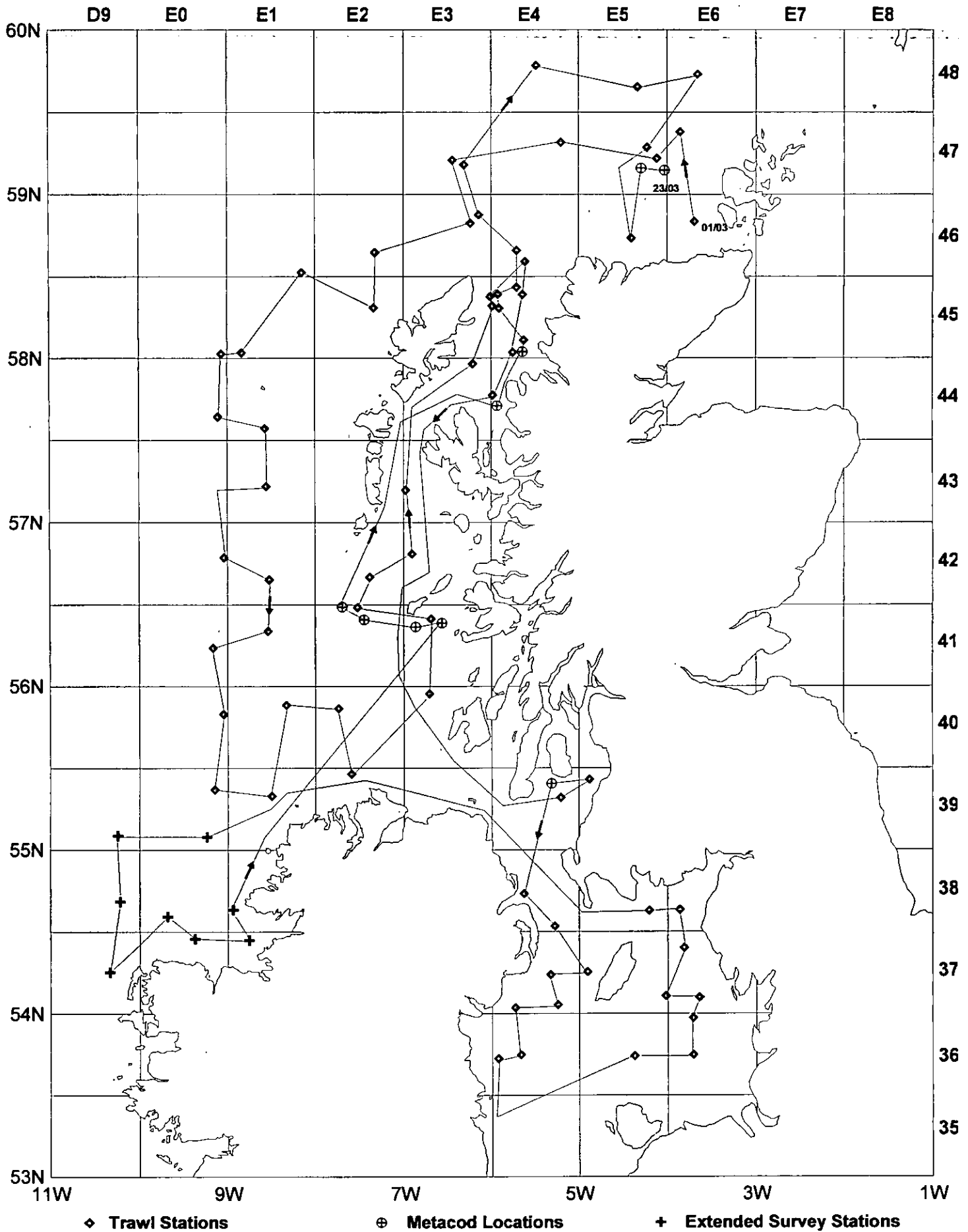
## **Tagging**

51 cod >25 cm were tagged from a variety of positions in the Clyde and Minch with Star-Oddi Data Storage Tags and released close to their capture positions. A further six cod that were too small for DST work were tagged with flag tags before being released.

K A Coull/C G Davis  
14 May 2003

Seen in draft: Captain Peter Barrett, OIC *Scotia*

# West Coast Groundfish Survey - 2003 Station Positions



Haddock I-group average nos/hour

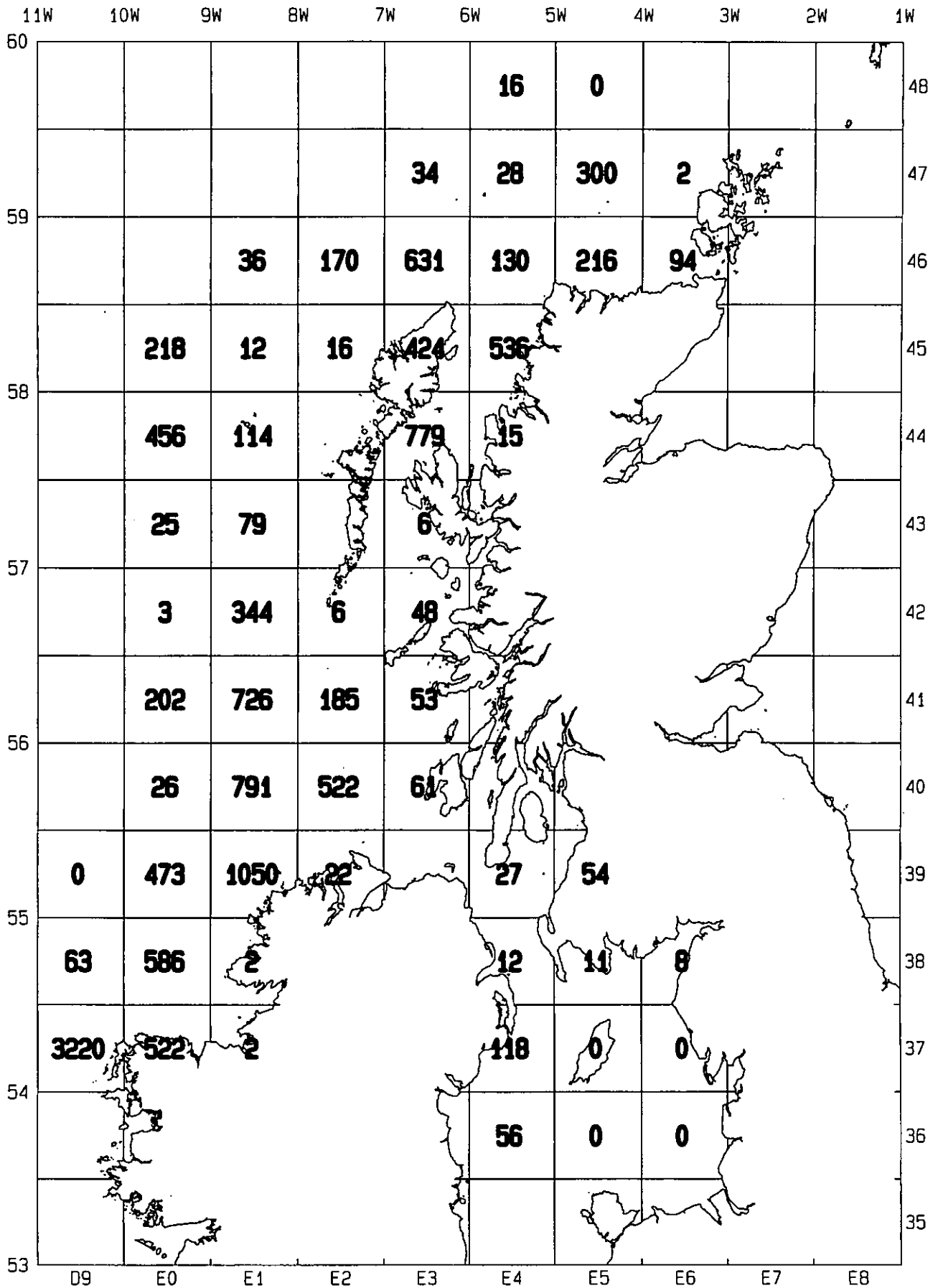


Figure 1.

Whiting I-group average nos/hour

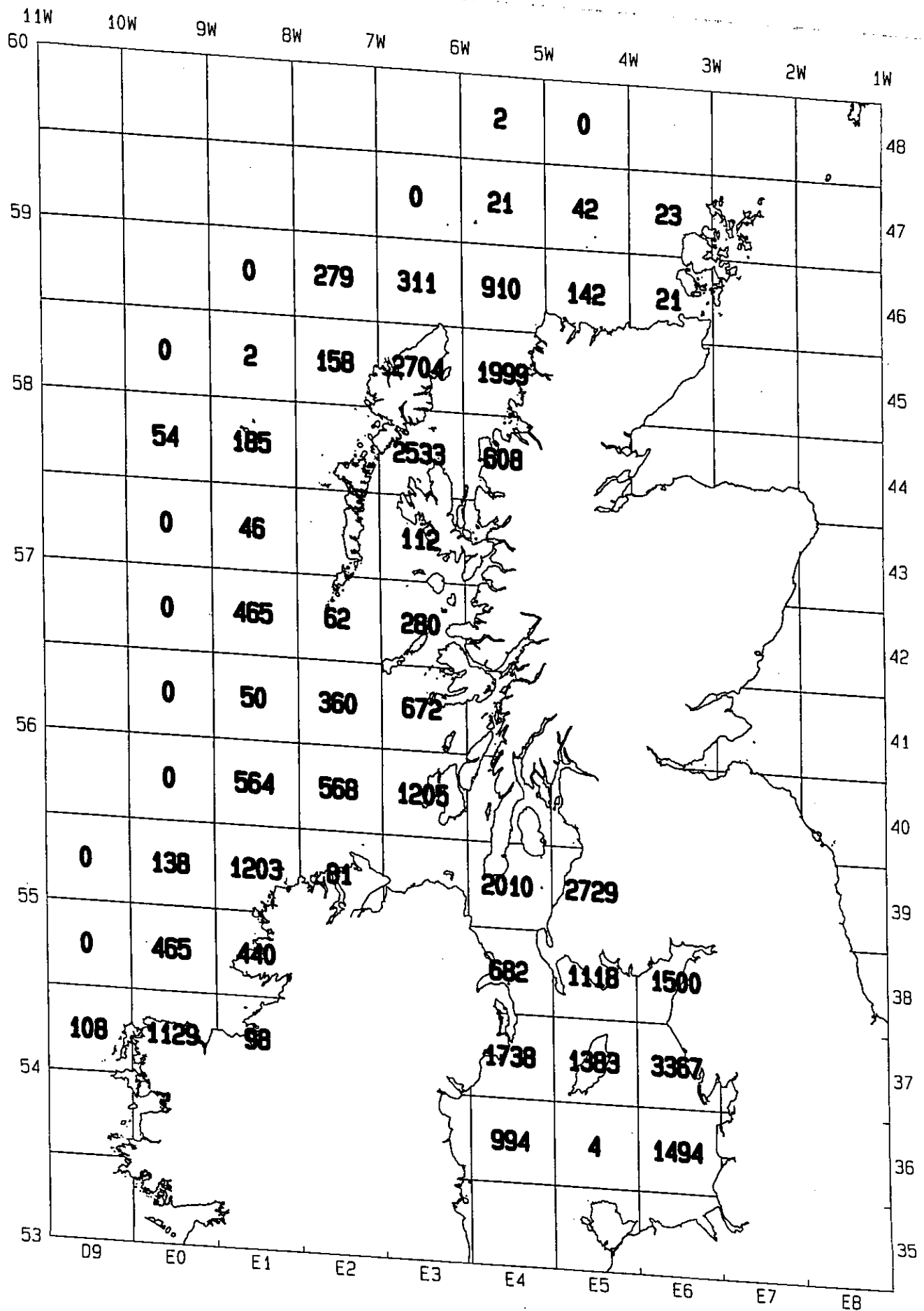


Figure 2.