

R1/12

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FRV *Scotia*

Cruise 1498S

**REPORT**

10-27 August 1998

**Personnel**

|               |                 |
|---------------|-----------------|
| K A Coull     | SSO (in charge) |
| R S Raynard   | SSO             |
| J A King      | HSO             |
| K J Peach     | SO              |
| M C Mathewson | ASO             |
| F N Burns     | ASO             |
| J Drewery     | ASO             |
| I Penny       | ASO             |

**Objective**

To undertake a demersal trawling survey of North Sea.

**Out turn days per project:** 18 days - MF01t

**Narrative**

*Scotia* sailed from Aberdeen on the morning of 10 August and commenced trawling on stations east of Aberdeen. Seven hauls were completed before the vessel proceeded to Montrose on the evening of 11 August to allow two observers to be put ashore on the pilot boat. *Scotia* completed the stations on the southern part of the survey area on the evening of 14 August and commenced trawling in Danish waters the following morning. Work continued uninterrupted on the stations on the eastern and northern edge of the survey area before the vessel docked at Lerwick at 1900 hours on 21 August for the mid cruise break.

The vessel sailed at 1030 hours the following morning and completed the stations southwest of Shetland the same day. Trawling continued on stations off the northeast of Scotland with the survey being completed on the evening of 26 August. *Scotia* docked at Aberdeen on the morning of 27 August.

**Results**

Due to the fact that the duration of the survey was reduced by four days, trawling was limited to 77 of the original 87 stations. Water samples and temperatures were taken at 45 stations.

The (provisional) number of  $\emptyset$ -group haddock and whiting caught per 30 minutes in each statistical rectangle are shown in Figures 1 and 2 respectively. The numbers of haddock, whiting and Norway pout caught per 10 hours fishing since the survey series commenced in 1982 are shown in Tables 1, 2 and 3 respectively. However, no immediate conclusions should be drawn from these tables as this is the first year in which the new vessel and sampling gear have been used.

All length frequency data, haul summary information, and age data for cod, haddock, whiting, saithe and Norway pout were punched at sea and stored on micro-computer. The Scanmar system was used throughout the cruise to monitor headline height, wing spread, door spread and distance covered during each haul.

K A Coull  
7 October 1998

Seen in draft: J Nichols

TABLE 1

## Results From Scottish Surveys Conducted in August

| Numbers of haddock per 10 hours fishing - North Sea |             |        |       |       |       |     |    |    |   |   |
|---|-------------|--------|-------|-------|-------|-----|----|----|---|---|
| Survey year   | Valid hauls | Age    |       |       |       |     |    |    |   |   |
|   |             | 0      | 1     | 2     | 3     | 4   | 5  | 6  | 7 | 8 |
| 1982  | 77          | 1,235  | 2,488 | 996   | 1,336 | 115 | 7  | 2  | 1 | 2 |
| 1983  | 79          | 2,203  | 1,813 | 1,611 | 372   | 455 | 53 | 12 | 1 | 1 |
| 1984  | 82          | 873    | 4,367 | 788   | 336   | 55  | 65 | 9  | 5 | 1 |
| 1985  | 83          | 818    | 1,976 | 2,981 | 232   | 103 | 14 | 22 | 4 | 2 |
| 1986  | 80          | 1,747  | 2,329 | 574   | 598   | 36  | 27 | 4  | 3 | + |
| 1987  | 73          | 277    | 2,393 | 704   | 106   | 128 | 8  | 5  | 1 | 2 |
| 1988  | 86          | 406    | 467   | 1,982 | 170   | 27  | 23 | 2  | 1 | + |
| 1989  | 86          | 432    | 886   | 214   | 574   | 31  | 4  | 7  | 1 | + |
| 1990  | 85          | 3,163  | 1,002 | 240   | 32    | 103 | 7  | 1  | 3 | 1 |
| 1991  | 90          | 3,471  | 1,705 | 178   | 21    | 5   | 16 | 2  | + | 1 |
| 1992  | 87          | 8,270  | 3,832 | 963   | 48    | 8   | 3  | 8  | + | + |
| 1993  | 87          | 859    | 5,836 | 1,380 | 269   | 6   | 4  | 1  | 3 | + |
| 1994  | 87          | 13,762 | 1,265 | 2,080 | 210   | 53  | 2  | +  | + | + |
| 1995  | 87          | 1,566  | 8,153 | 734   | 926   | 74  | 28 | 2  | 0 | 0 |
| 1996  | 85          | 1,980  | 2,231 | 4,705 | 231   | 206 | 22 | 6  | + | 0 |
| 1997  | 87          | 972    | 2,779 | 849   | 1,397 | 66  | 56 | 6  | + | + |
| 1998  | 77          | 3,280  | 6,349 | 1,924 | 490   | 511 | 24 | 18 | 2 | + |

TABLE 2

## Results From Scottish Surveys Conducted in August

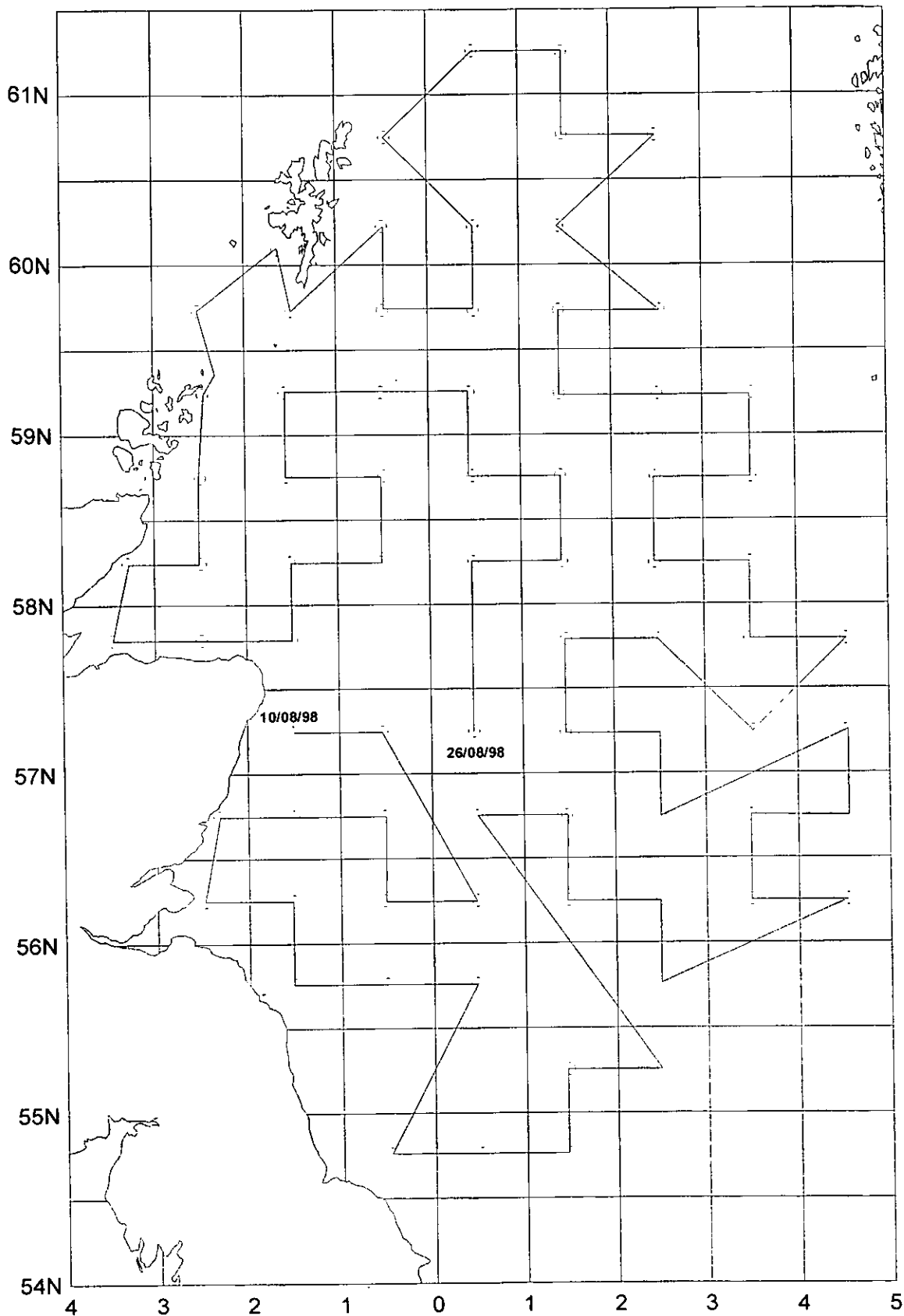
| Numbers of whiting per 10 hours fishing - North Sea |             |        |       |       |       |     |     |    |    |   |
|---|-------------|--------|-------|-------|-------|-----|-----|----|----|---|
| Survey year   | Valid hauls | Age    |       |       |       |     |     |    |    |   |
|   |             | 0      | 1     | 2     | 3     | 4   | 5   | 6  | 7  | 8 |
| 1982  | 77          | 102    | 653   | 971   | 972   | 224 | 60  | 16 | 3  | + |
| 1983  | 79          | 210    | 563   | 578   | 407   | 511 | 116 | 17 | 3  | 5 |
| 1984  | 82          | 442    | 1,048 | 371   | 170   | 77  | 92  | 18 | 5  | + |
| 1985  | 83          | 169    | 1,577 | 973   | 247   | 63  | 36  | 18 | 10 | + |
| 1986  | 80          | 406    | 1,111 | 452   | 224   | 27  | 5   | 5  | 1  | 0 |
| 1987  | 73          | 120    | 1,405 | 1,150 | 208   | 77  | 16  | 3  | +  | + |
| 1988  | 86          | 642    | 967   | 1,606 | 452   | 70  | 19  | 2  | 0  | 2 |
| 1989  | 86          | 427    | 4,043 | 741   | 733   | 157 | 13  | 6  | 1  | 0 |
| 1990  | 85          | 1,943  | 2,239 | 2,053 | 248   | 255 | 47  | 5  | 1  | 1 |
| 1991  | 90          | 1,379  | 1,769 | 950   | 759   | 51  | 40  | 9  | +  | 0 |
| 1992  | 87          | 2,417  | 2,925 | 1,267 | 553   | 585 | 47  | 26 | 5  | - |
| 1993  | 87          | 247    | 3,169 | 1,168 | 423   | 156 | 182 | 6  | 11 | + |
| 1994  | 87          | 648    | 2,635 | 950   | 254   | 57  | 34  | 23 | +  | 1 |
| 1995  | 87          | 1,243  | 4,176 | 2,010 | 903   | 196 | 58  | 22 | 15 | 3 |
| 1996  | 85          | 440    | 2,888 | 3,047 | 1,215 | 460 | 43  | 15 | 22 | 9 |
| 1997  | 87          | 317    | 1,824 | 1,434 | 1,191 | 319 | 122 | 17 | 8  | + |
| 1998  | 77          | 12,302 | 4,141 | 5,426 | 649   | 321 | 131 | 62 | 5  | 3 |

TABLE 3

## Results of Norway Pout Per 10 Hours Fishing - North Sea

| Numbers of Norway pout per 10 hours fishing - North Sea |             |        |        |        |     |    |   |   |   |   |
|---|-------------|--------|--------|--------|-----|----|---|---|---|---|
| Survey year   | Valid hauls | Age    |        |        |     |    |   |   |   |   |
|   |             | 0      | 1      | 2      | 3   | 4  | 5 | 6 | 7 | 8 |
| 1982  | 77          | 80     | 9,913  | 439    | 220 | 1  | - | - | - |   |
| 1983  | 79          | 133    | 4,895  | 908    | 10  | 0  | - | - | - |   |
| 1984  | 82          | 19     | 6,151  | 688    | 83  | 5  | - | - | - |   |
| 1985  | 83          | 47     | 6,357  | 1,731  | 54  | 0  | - | - | - |   |
| 1986  | 80          | 384    | 3,887  | 538    | 89  | 15 | - | - | - |   |
| 1987  | 73          | 74     | 3,379  | 226    | 11  | 1  | 1 | - | + |   |
| 1988  | 86          | 137    | 382    | 2,092  | 44  | 3  | - | - | - |   |
| 1989  | 86          | 15     | 3,817  | 214    | 143 | 13 | - | - | - |   |
| 1990  | 85          | 579    | 2,062  | 510    | 15  | 5  | - | - | - |   |
| 1991  | 90          | 97     | 7,317  | 423    | 62  | 0  | - | - | - |   |
| 1992  | 87          | 122    | 17,146 | 2,213  | 240 | 4  | - | - | - |   |
| 1993  | 87          | 17     | 5,804  | 3,291  | 204 | 1  | - | - | - |   |
| 1994  | 87          | 1,360  | 3,872  | 1,063  | 58  | 3  | - | - | - |   |
| 1995  | 87          | 368    | 24,383 | 2,336  | 208 | 13 | - | - | - |   |
| 1996  | 85          | 1,270  | 4,117  | 3,210  | 78  | 7  | - | - | - |   |
| 1997  | 87          | 10     | 21,536 | 1,300  | 319 | 13 | + | - | - |   |
| 1998  | 77          | 26,281 | 9,382  | 10,270 | 52  | 39 | - | - | - |   |

Scotia 10 - 27 August 1998 Cruise 1498S



**August Groundfish Survey - 1998  
0-Group Haddock ( Number/30mins)**

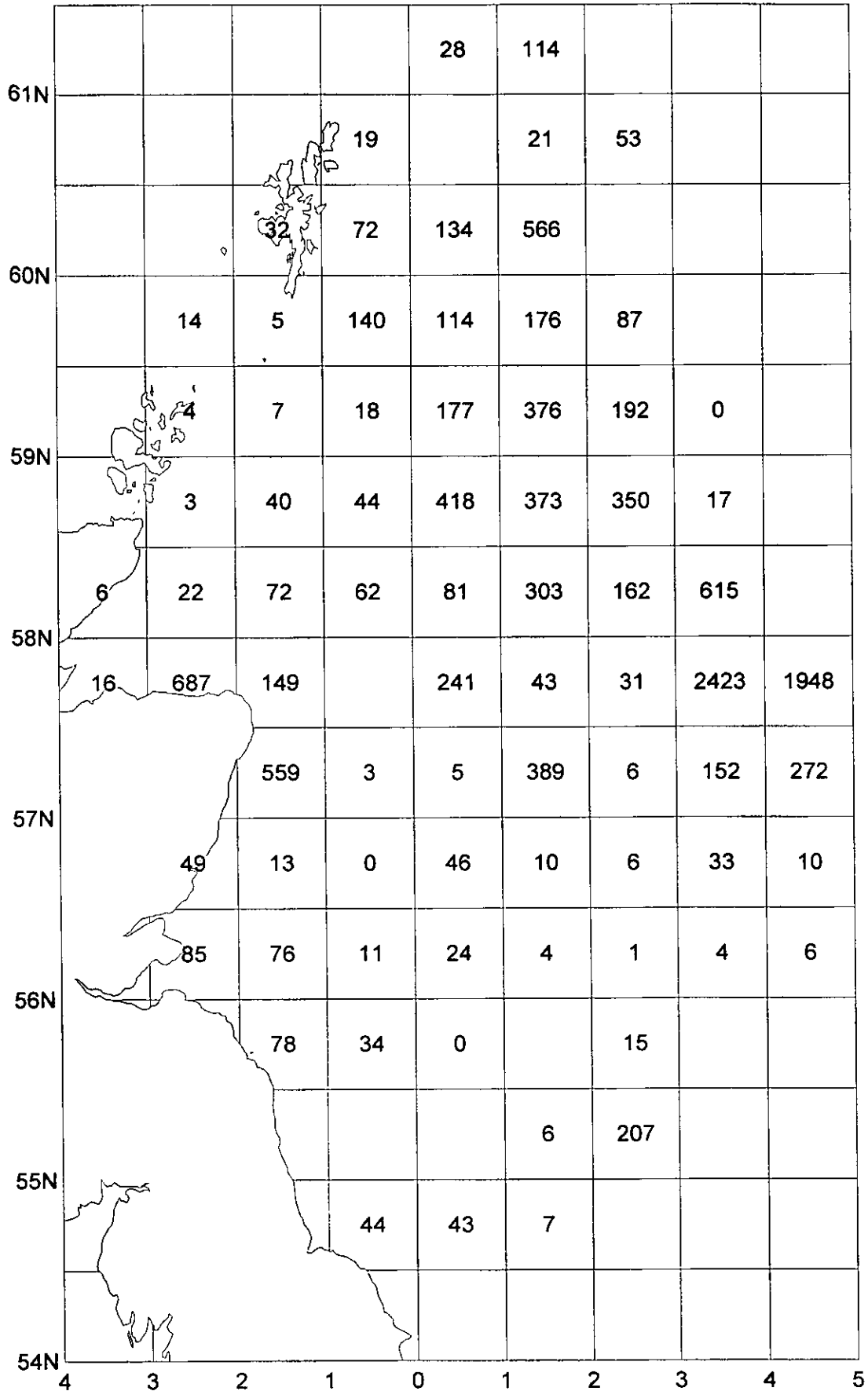


Figure 1.

**August Groundfish Survey - 1998**  
**0-Group Whiting ( Number/30mins)**

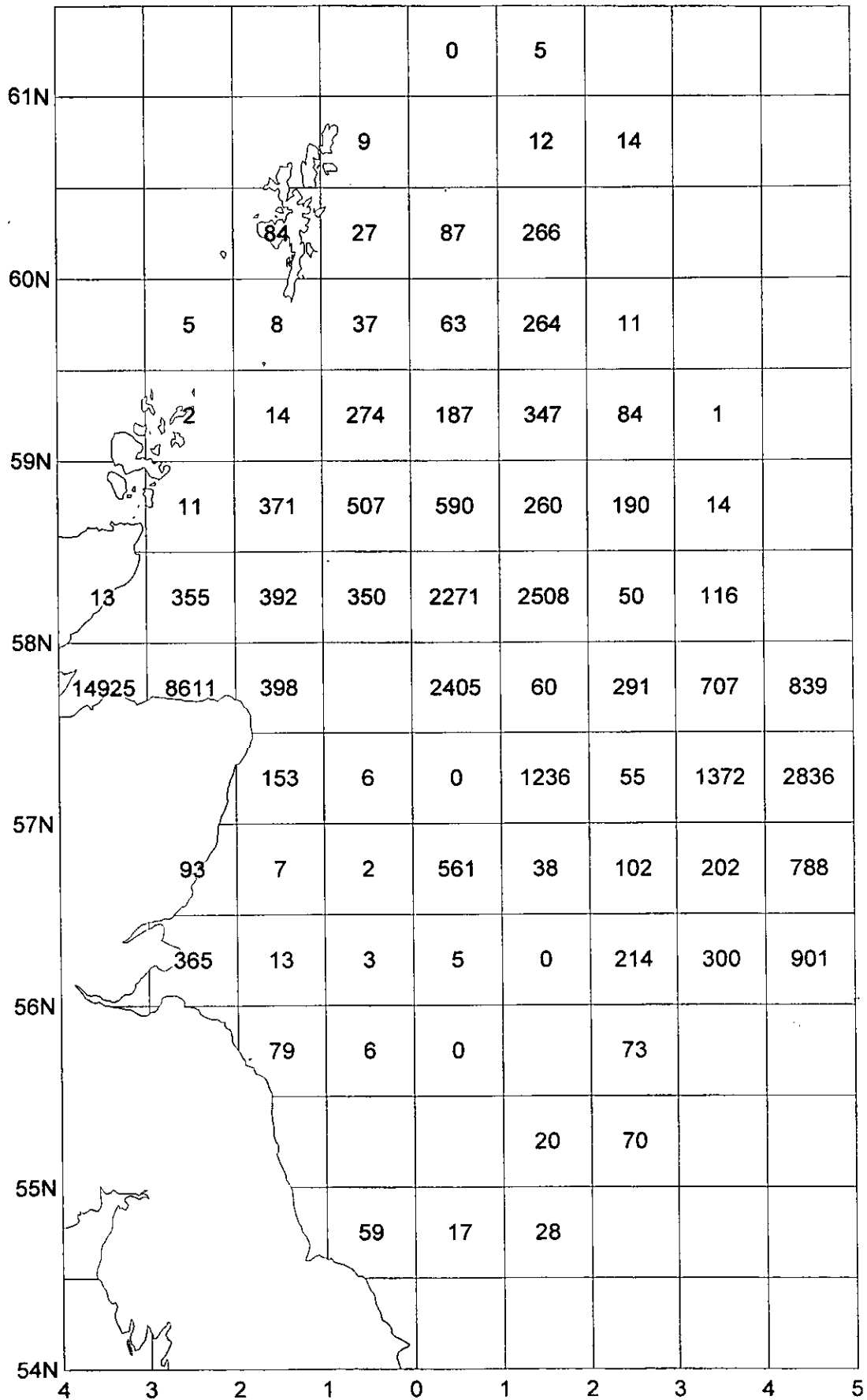


Figure 2.