

R1/12

In Confidence: Not to be quoted without prior reference to the Laboratory

10SR83 JR

Cruise Report

FRV "Scotia" 10/83

28 September - 18 October 1983

<u>Personnel:</u>	Mr J Morrison	SSO (In charge 20 Sept-6 Oct)
	Mr P Rankine	SO (In charge 7-18 Oct)
	Mr R Hutcheon	SO
	Mr J Staples	ASO
	Mr D Jack	Craftsman

Objectives:

1. To participate in the ICES coordinated herring larval surveys in Division VIa.
2. To collect sea water samples at Cape Wrath, in the Pentland Firth and at Aberdeen as part of the Lowestoft radio caesium programme.
3. To collect, measure and preserve freshly caught, recently hatched, herring larvae as part of a project investigating the genetic composition of herring larvae.
4. To pick out and tube fish larvae from plankton samples during the cruise.

Narrative

'Scotia' left Aberdeen at 1500 on 28 September and headed for the Pentland Firth where a radio caesium sample was taken at 0130 on 29 September. 'Scotia' then continued west on passage and commenced larval sampling at station 36 after breakfast the same day. By 0830 the following day however a severe easterly gale forced 'Scotia' to break off sampling and resume in the more sheltered waters to the west of Lewis. Work was continued in this area until 1 October, when rapidly deteriorating weather conditions forced 'Scotia' to make for the Butt of Lewis and work stations in the Minches. By the time 'Scotia' had reached Barra Head on 3 October, the weather had improved somewhat and during the next three days 'Scotia' completed the remainder of the grid to the outside of the Hebrides and within the Minch before docking in Stornoway for the half landing at 0900 on 6 October.

Mr Rankine joined the ship at 2200 on the 6th and Mr Morrison left the ship on the morning of the 7th. 'Scotia' left Stornoway at 1200 on the same day and commenced work at station 51. The grid was continued until station 67 where it was decided to proceed southwards to Northern Ireland, due to a favourable forecast. However arrival in Irish waters was delayed as the weather had not yet moderated and sampling recommenced at 0300 on the 8th at station 93 and was continued until 1500 on the same day, station 114 being completed before 'Scotia' steamed for station 117 to commence the Irish grid at 1840. Sampling continued without interruption for the next three days, despite a very strong westerly gale, the Irish grid being completed at 1500 on the 11th at station 135. 'Scotia' then steamed for station 115 and worked northwards until sampling was discontinued at 0230 on the 13th at station 71, due to a westerly gale gusting over 75 knots. "Scotia" sheltered to the east of Skye, off Staffin Island,

before sampling was resumed at 0520 the next day at station 70. The grid was continued northwards before a north westerly gale again caused sampling to be discontinued at station 2 at 1035 on the 15th. 'Scotia' then dodged south westwards to station 19 where sampling recommenced at 1643 on the same day. Sampling continued until 2255 on the 16th when a northerly gale brought an end to sampling at station 35. 'Scotia' dodged overnight before setting a course for Aberdeen where she docked at 1900 on the 17th.

### Results

All the stations on the grid, 165, were sampled at least once, 77 were sampled twice and 18 three times. All plankton samples were examined for herring larvae. The larval distribution and abundance being depicted in Figures 1 & II. There were considerably less larvae this year in the samples than in the corresponding survey in 1982. A total of 97 herring larvae were obtained, measured and preserved for genetic analysis and water samples were collected from the three designated areas for the Lowestoft radio caesium survey.

J Morrison

1 November 1983

See in draft: OIC

ICES

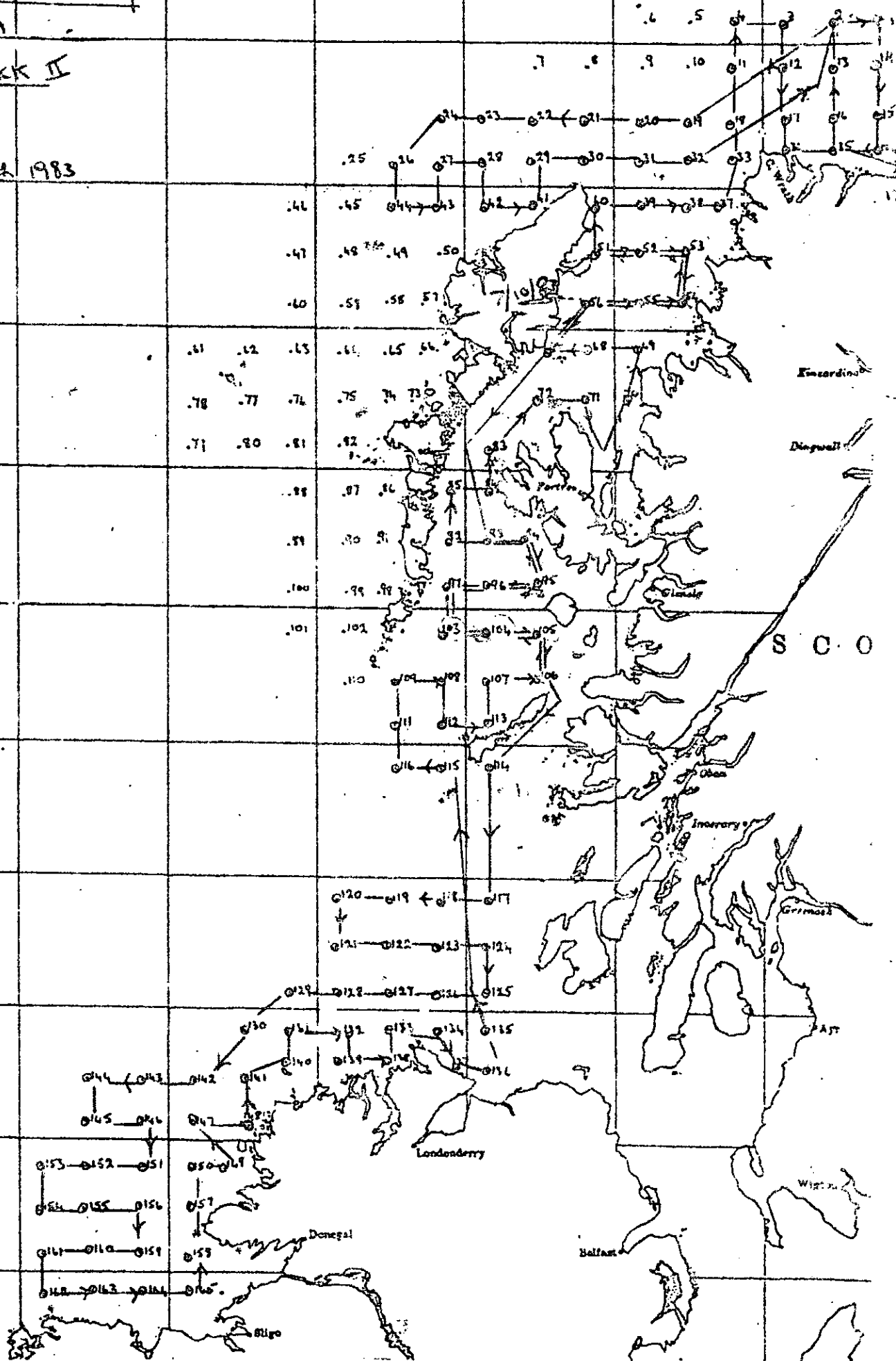
NEARING LARVAL SURVEY

59° N. S. SCOTIA

CHOISE BUCK II

10 OCTOBER

17 OCTOBER 1983



19° TOTAL

FAS SCOTIA

NOS

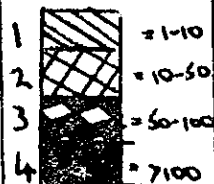
29/9/83 -

HERRING

6/10/83

LARVAE

IN SAMPLE

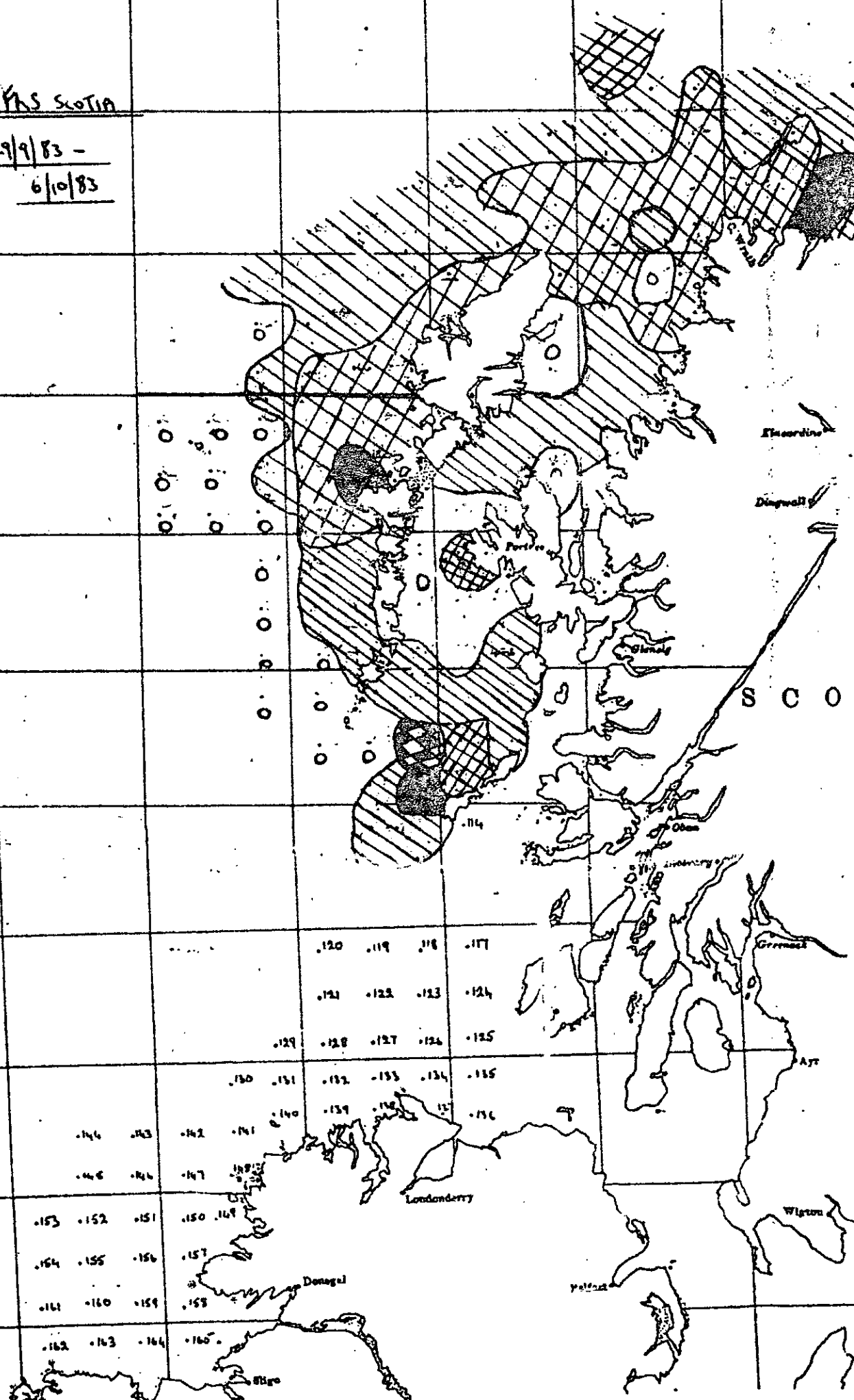


59°

57°

55°

56°



HERRING LARVAL SURVEYS - 21 AUG - 18 OCT 1983 - SURVEY GRID

59° CRUISE

THACK

FAS "SCOTIA" I

29/9/83 - 6/10/83

58°

57°

56°

56°

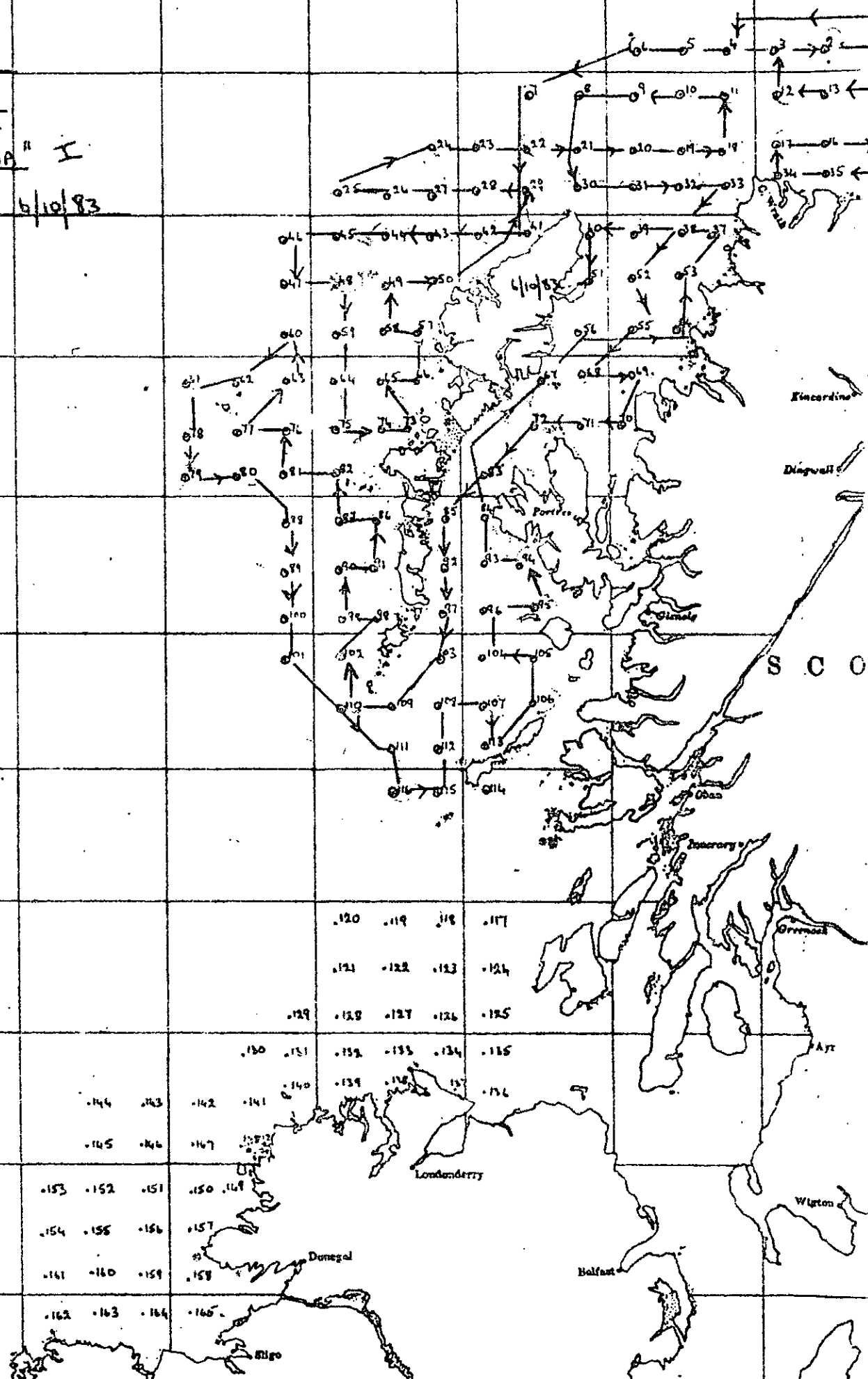
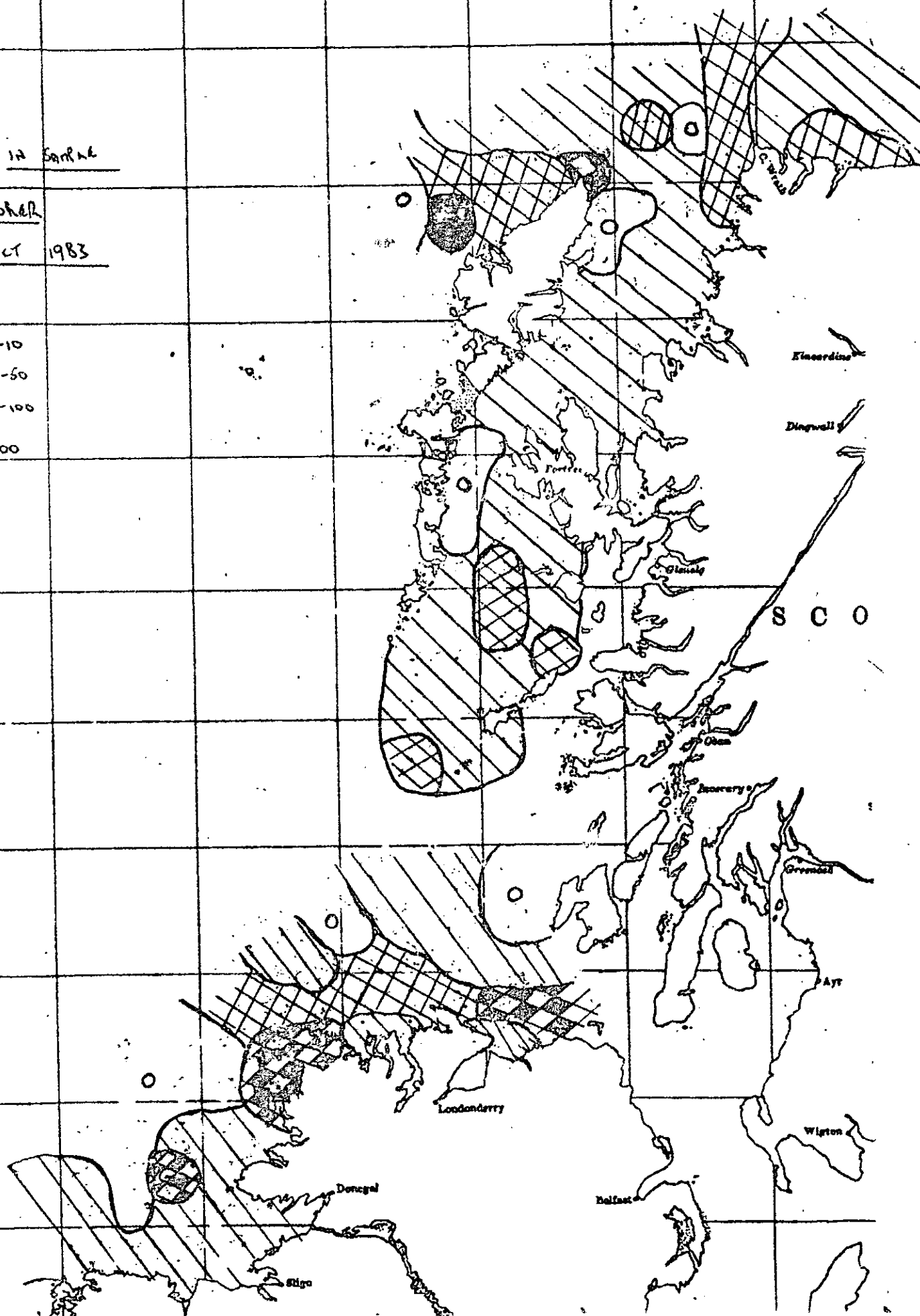
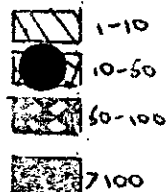


Fig II

TOTAL  
NOS OF  
PERRING  
LARVAE IN SAMPLE  
PER EXPLORER  
6-17 M OCT 1983



ICES

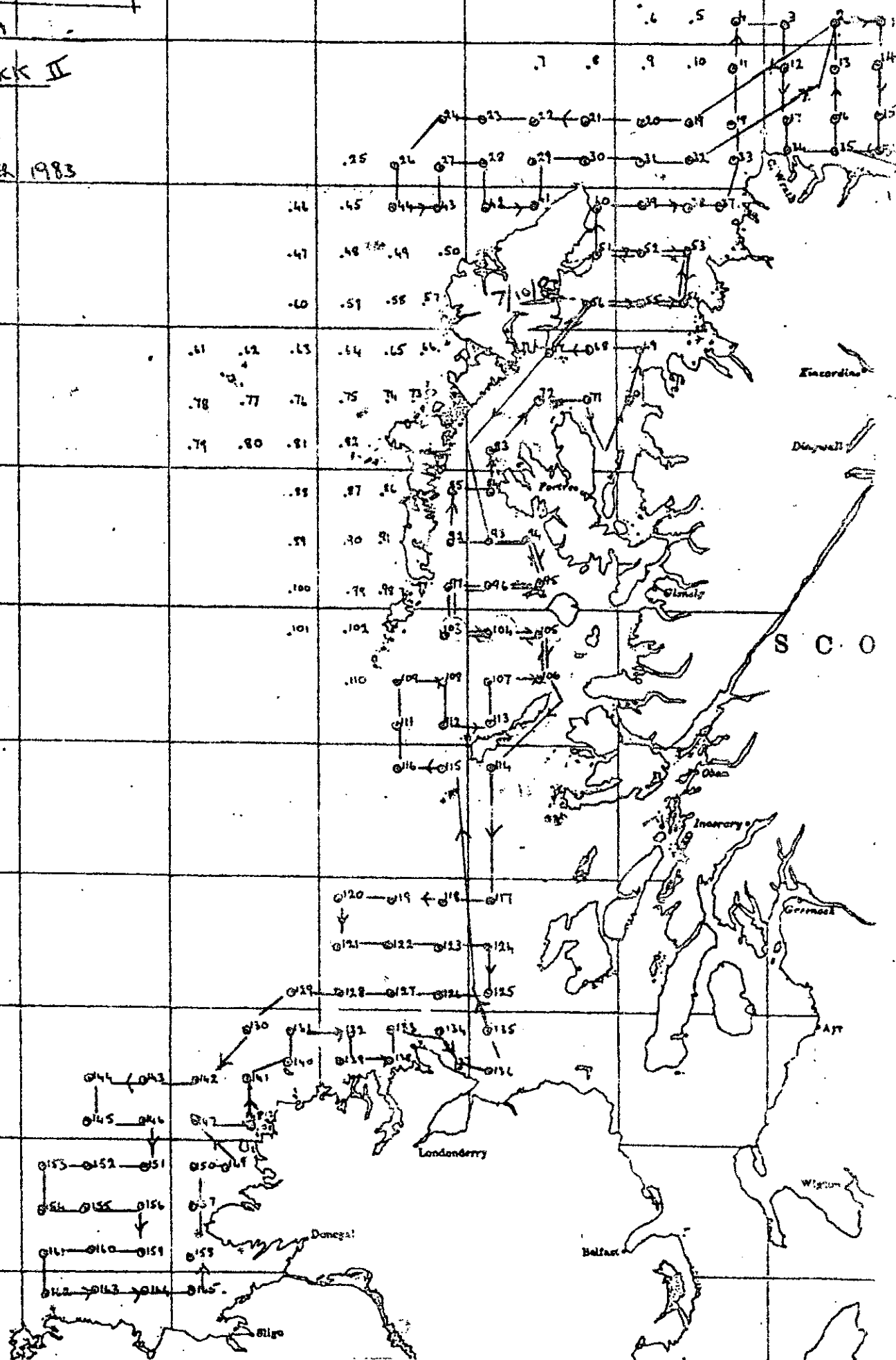
HERRING LARVAL SURVEY

IN SCOTIA

CRUISE TRACK II

11 OCTOBER

11 OCTOBER 1983



19° TOTAL

FAS SCOTIA

NOS.

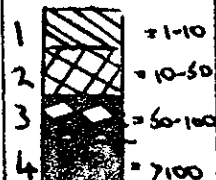
29/9/83 -

HERRING

6/10/83

LARVAE

IN SAMPLE



Kingdon

Dingwall

SCOTIA

.120 .119 .118 .117

.121 .122 .123 .124

.129 .128 .127 .126 .125

.130 .131 .132 .133 .134 .135

.139 .140 .141 .142 .143 .144

.145 .146 .147 .148 .149 .150

.153 .152 .151 .150 .149 .148

.154 .155 .156 .157 .158 .159

.161 .160 .159 .158 .157 .156

.162 .163 .164 .165 .166 .167

Londonderry

Donegal

Sligo

Wilton



HERRING LARVAL SURVEYS - AUG - 18 OCT 1983 - SURVEY GRID

59° CRUISER

THACK

FAS "SCOTIA" I

29/7/83 - 6/10/83

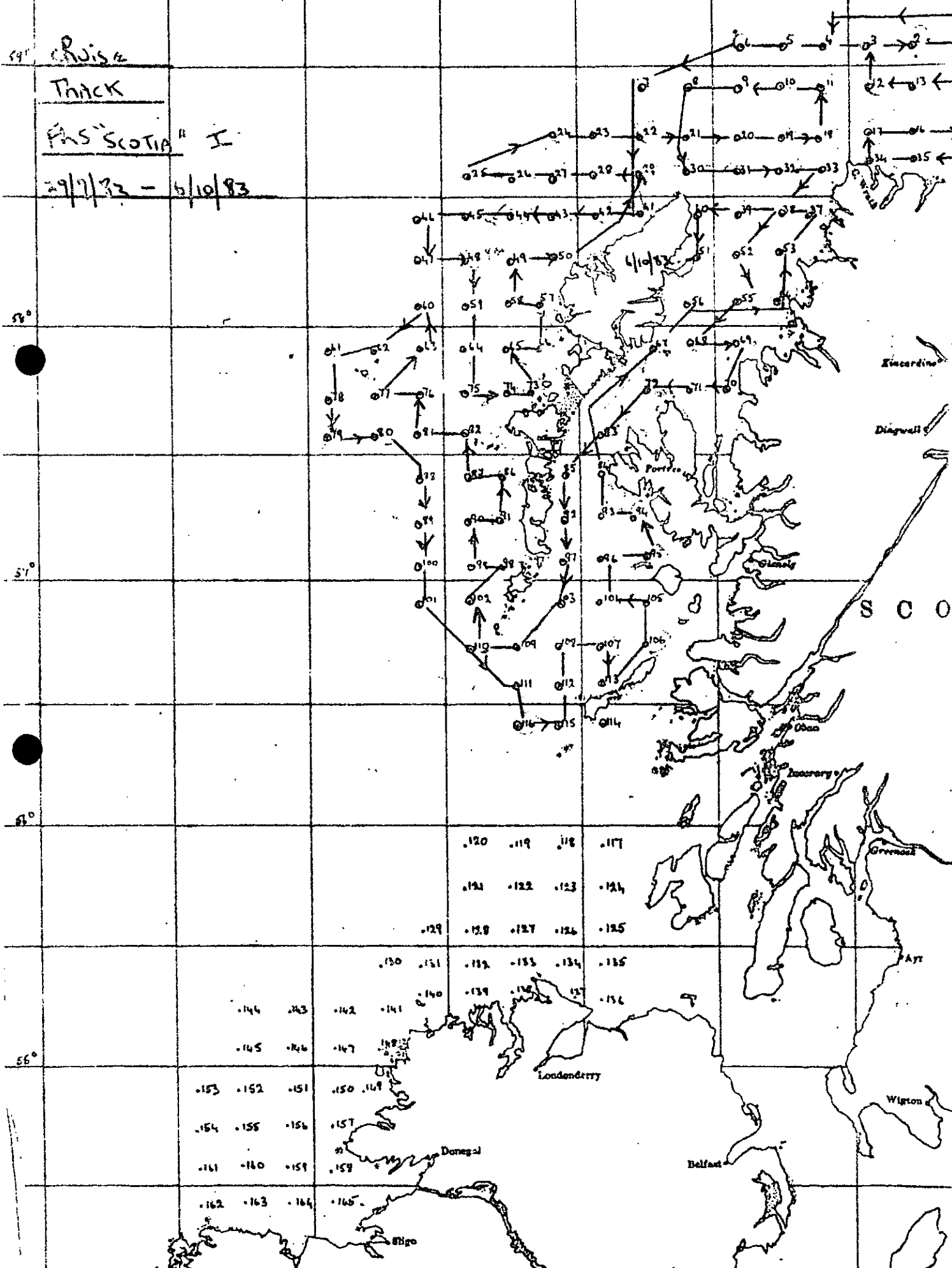
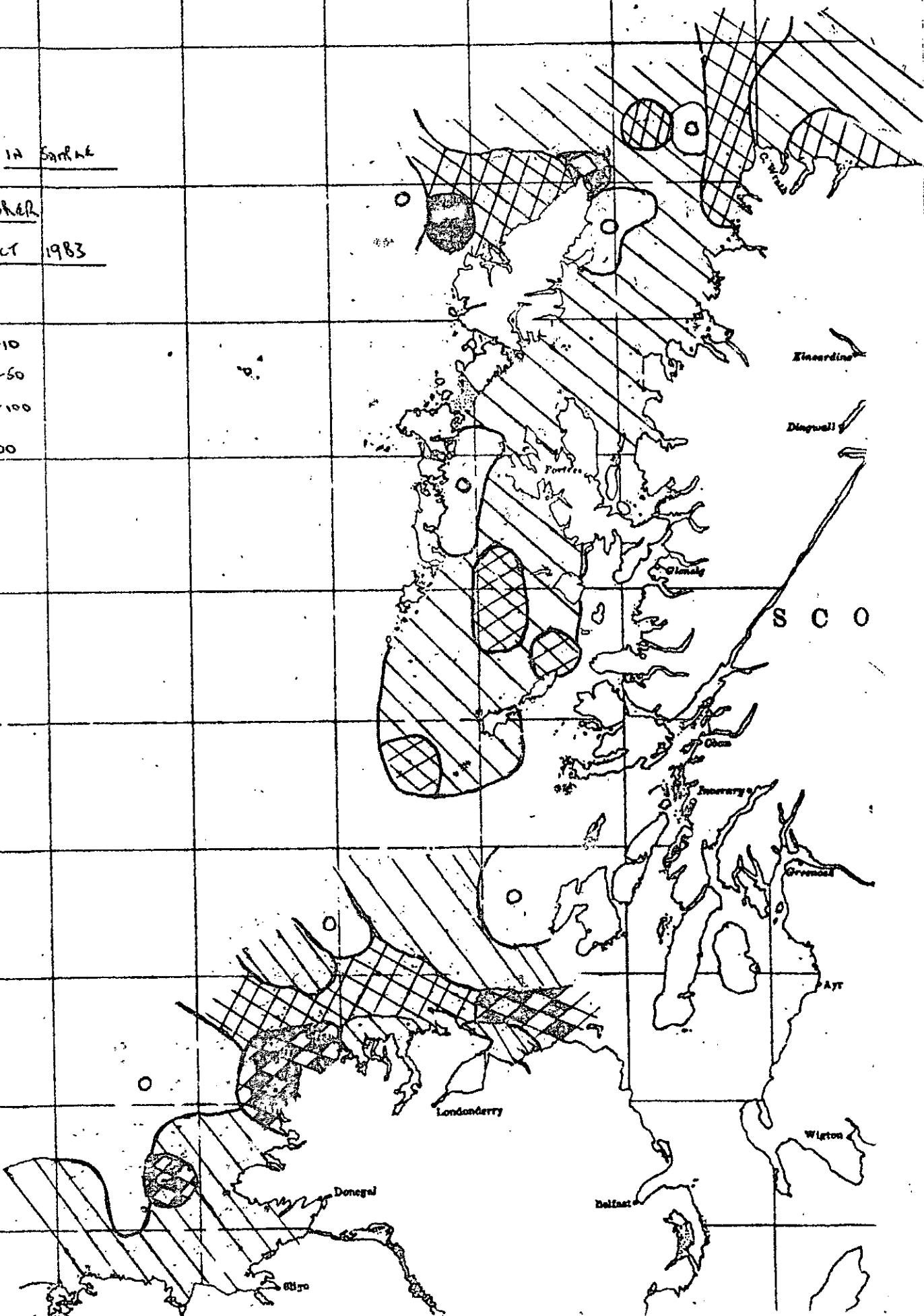


Fig II

TOTAL  
NO. OF  
HERRING  
LARVAE IN SAMPLE

FRESHWATER  
6-17m OCT 1983

- 1-10
- 10-50
- 50-100
- 7100



ICES

HERING LARVAE SURVEY

59° N S C O T I A

ROUSE TRACK II

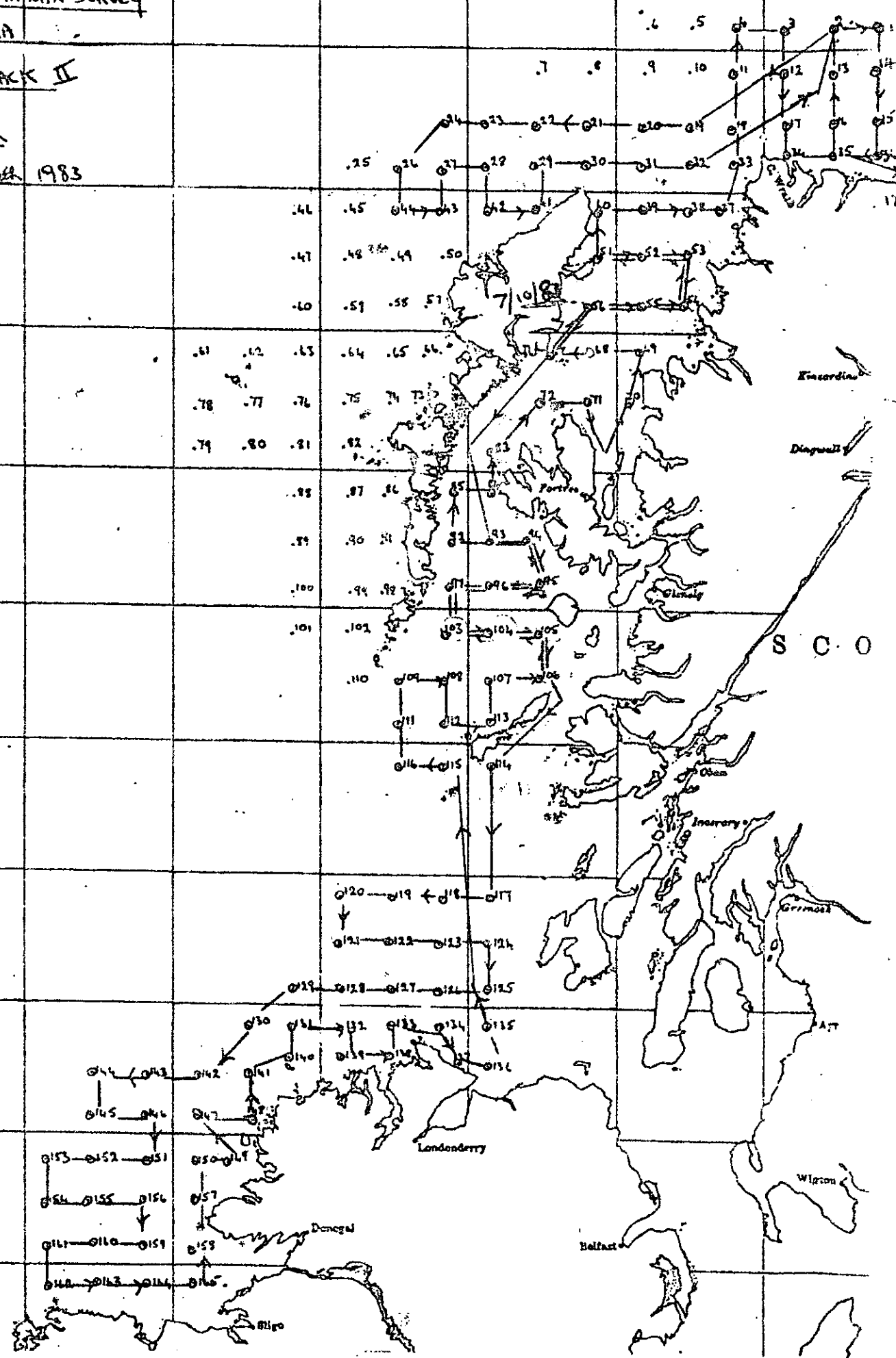
7th OCTOBER

11th OCTOBER 1983

58°

57°

56°



19° TOTAL

FAS SCOTIA

NOS.

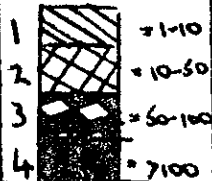
29/9/83 -

HERRING

6/10/83

LARVAE

IN SAMPLE

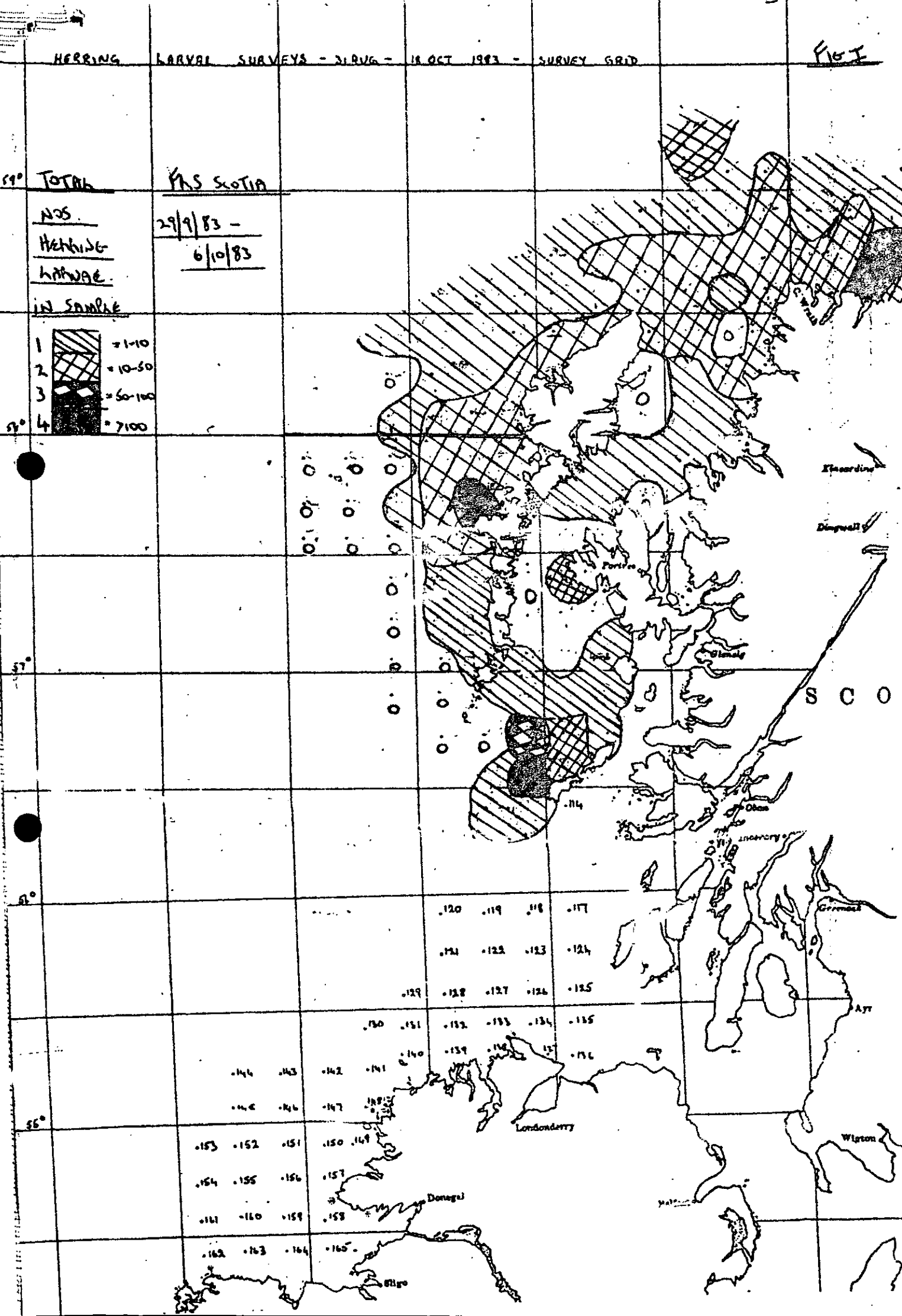


19°

57°

59°

56°



HERRING LARVAL SURVEYS - 21 AUG - 18 OCT 1983 - SURVEY GRID

59° Chris E

Thack

F.R.S. "SCOTIA" I

29/9/83 - 6/10/83

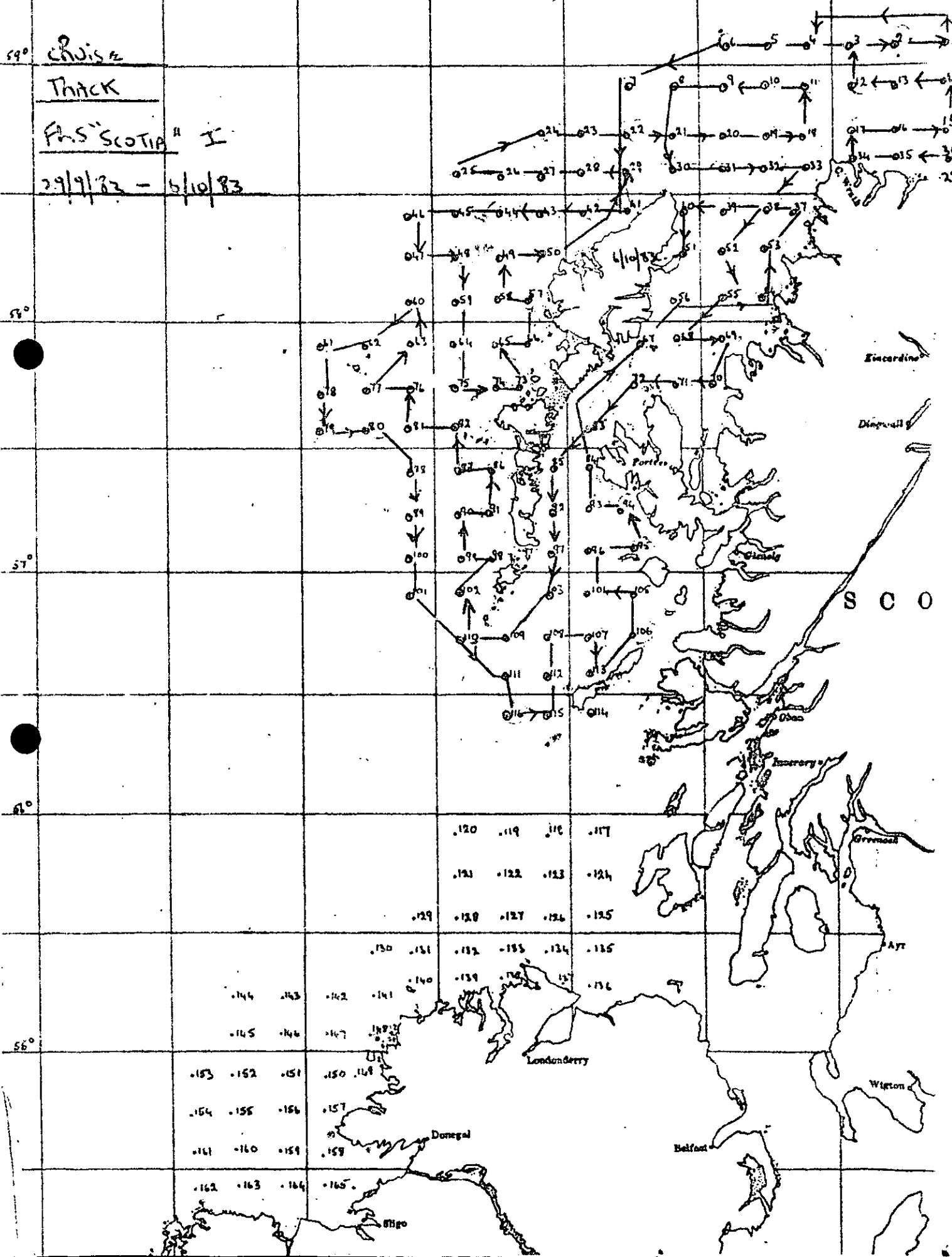






Fig II

Total  
NOS of  
HERRING  
LARVAE in Sample  
RESAMPLER  
6-17 OCT 1983

-  1-10
-  10-50
-  50-100
-  7100

