

CRUISE REPORT

F.R.S. "MARA"

4th-17th March, 1964

Objectives

To make the following observations in and around Loch Ewe in connection with the loch programme.

- (1) Otter trawling to assess the distribution and maturity of plaice.
- (2) Plankton hauls to survey the distribution of plaice eggs and larvae.
- (3) If time permitted, to tag plaice.
- (4) Co-operation with shore based staff in Loch Ewe.

Narrative

The scientific staff joined the "Mara" in Aultbea at 1645 hours on the 4th March. Commencing work on the 5th, the plankton grid and trawls were worked until the 9th March. Further plankton stations were worked on the 10th. In addition to this, buoys were laid to help in the detailed survey of Firemore Bay.

On the 11th March, Mr. Baird joined the "Mara", and three stations were worked in Loch Ewe. Water samples, grab and plankton samples were taken.

On the 12th March, with the help of the coble and in co-operation with the shore based staff, experimental work with the beam trawl was carried out in Firemore Bay. Water, core and grab samples were taken, and Mr. Hemmings dived to obtain various samples from the bottom.

On Friday the 13th March, Dr. Steele, Mr. McIntyre, Mr. Hemmings and Dr. J. Wells from Aberdeen University joined the "Mara" for work in Thurnaig Bay.

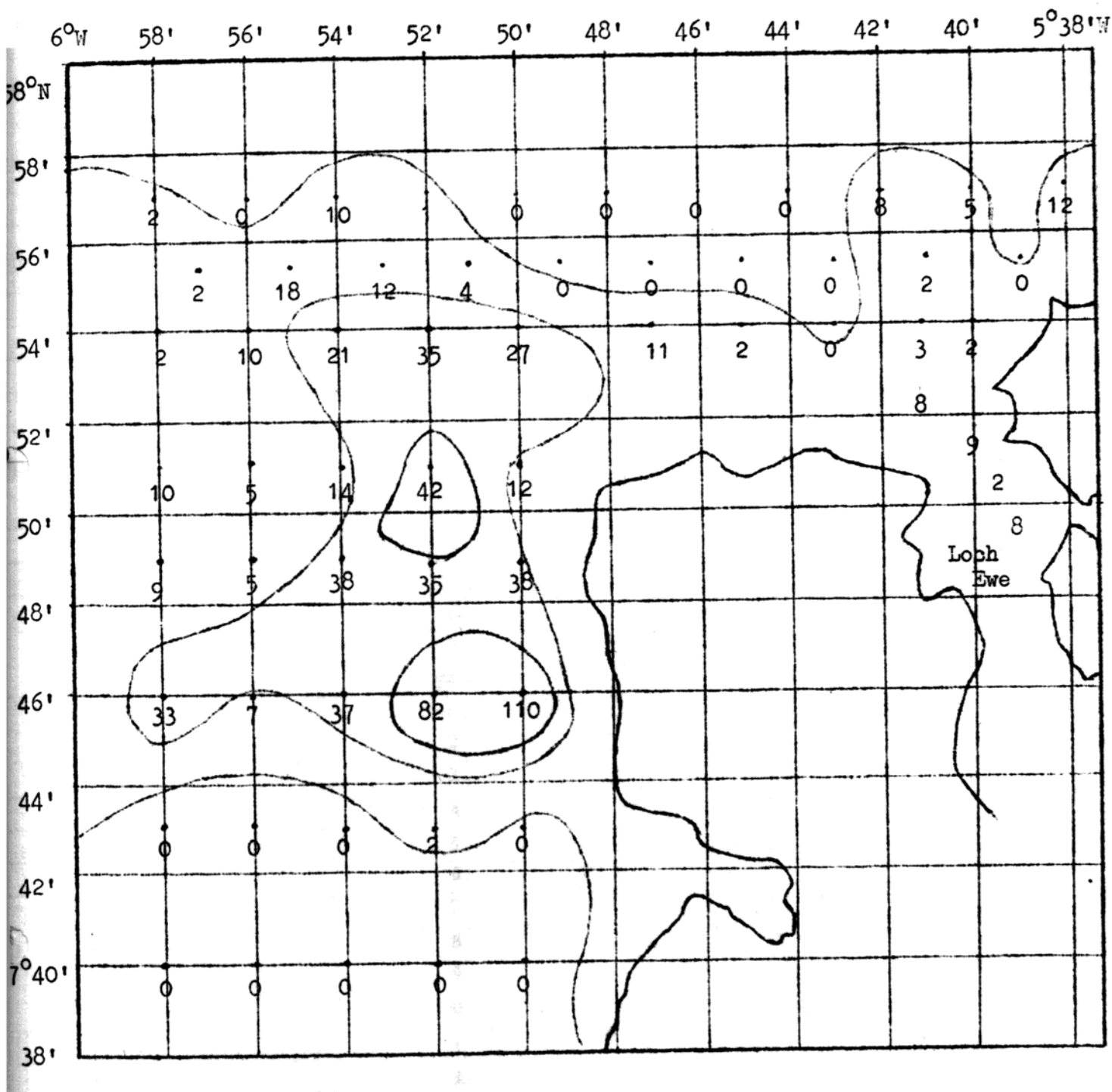
Mr. Nicoll and Mr. Murison left the "Mara" at 1100 hours on the 14th March. Mr. Priestley and Mr. Robertson joined "Mara" on the 15th, and on the 16th successfully carried out bottom photography in Loch Ewe. The cruise was terminated on the following day.

Results

Four trawls on very rough ground were made during the plankton survey. The first two catches were very small, consisting mainly of cod, haddock and whiting. The next two hauls were fouled, and the hopeless nature of the ground eventually led to the suspension of trawling.

Plankton samples were analysed when time allowed and the results are plotted on the attached chart.

N. T. NICOLL.
26th March 1964.



Distribution of plaice eggs in the approaches to Loch Ewe
4th-17th March 1964 (from rough analyses).

Number of eggs/15 min haul

Contours	1-20	eggs
	21-40	"
	41-80	"
	81-150	"

HAUL No. 1064/1 DATE 5.3.64 AREA LARGE/SMALL MESH

DURATION OF HAUL 1 hr. No. of SHEETS 1

Haddock

Whiting

Cod

Worms

20		20		25	1		
1		1		30			
2		2	1	1			
3		3		2			
4		4	1	3			
5		5	1	4			
6	3	6	2	5			
7	2	7		6			
8	1	8		7			
9	1	9		8			
30	1	30	5	9			
1		1	3	40			
2		2	6	1			
3		3	7	2			
4		4	3	3			
5	1	5	5	4			
6	1	6	2	5			
7		7	6	6			
8	1	8	2	7			
9	1	9	3	8			
40		40		9			
1	1	1	2	50			
2	1	2		1			
3		3	2	2			
4		4	1	3			
5		5		4			
6		6		5			
7		7		6			
8		8	1	7			
9		9		8		1	
50		0		9			
1		1		60	1		
2		2		1			
3		3		2	1		
4		4		3			
5		5		4			
6	1	6		5	1	1	
7	1	7		6	1		
8		8		7			
9		9		8			
	16		53	9			
					5	4	<u>9</u>

COUNT

RANGE

FRACTION SAMPLED

all

COUNT

RANGE

FRACTION SAMPLED

all

COUNT

RANGE

FRACTION SAMPLED

all

HAUL No. m64/1

LARGE/SMALL MESH 1

S. cucucula *Plistinus* *Gurnard. grey* *G. minutus*

				22	.	1		
30		6		26			6	
1		7		7	:	2	7	
2		8		8			8	
3		9		9	.	1	9	
4		40		30	.	1	10	
5		1		1			1	
6		2		2			2	
7		3		3			3	
8		4		4	:	2	4	
9		5		5	.	1	5	1
40		6		6			6	1
1		7		7			7	2
2		8		8			8	1
3		9		9			9	4
4		50		0			20	4
5		1		1			1	4
6		2		2			2	
7		3		3			3	1
8		4	1	4			4	
9		5	1	5			5	1
50		59	2			8		19

COUNT
RANGE
FRACTION SAMPLED
SPECIES

6		L. Sole.		$\frac{1}{19}$	$\frac{1}{28}$			2		
7	1	Witch		$\frac{1}{35}$				1		
8		Megrino		$\frac{3}{21}$	$\frac{1}{26}$			4		
9	1	C. Dab		$\frac{1}{20}$				1		
60		Gurnard	red	$\frac{1}{27}$	$\frac{1}{38}$	$\frac{1}{39}$		3		
1	1	R. radiata	♀	$\frac{1}{54}$				1		
3		Angler		$\frac{1}{60}$				1		
5		Hake		$\frac{1}{26}$	$\frac{1}{29}$	$\frac{1}{30}$	$\frac{1}{36}$	$\frac{1}{37}$	$\frac{1}{44}$	6
6		Caranx		$\frac{1}{40}$					1	
7		Lythe		$\frac{1}{53}$					1	

9 . 1
5
Echinus esculentus 2 Nephrops 5.

COUNT
RANGE
FRACTION SAMPLED

White

HAUL No. M64/2 DATE 6.3.64 AREA LARGE/SMALL MESH

DURATION OF HAUL 1 hour No. of SHEETS 1

Haddock.

Whiting

7000					
20			20		0
1			1		1
2			2		2
3	2		3		3
4	4		4		4
5	8		5		5
6	19		6		6
7	27		7		7
8	34		8		8
9	20		9		9
30	15		30		0
1	6		1		1
2	8		2		2
3	5		3	4	3
4	12		4	2	4
5	16		5	1	5
6	17		6	1	6
7	25		7	1	7
8	19		8	3	8
9	18		9	1	9
40	14		40	1	0
1	15		1	1	1
2	9		2		2
3	6		3		3
4	5		4	1	4
5	2		5		5
6	3		6		6
7	3		7		7
8	4		8		8
9	2		9		9
50	1		50		0
1	3		1		1
2			2		2
3	1		3		3
4			4		4
5	1		5	1	5
6	1		6		6
7			7		7
8			8		8
9			9		9

COUNT 324
 RANGE
 FRACTION SAMPLED all

COUNT 17
 RANGE
 FRACTION SAMPLED all

COUNT
 RANGE
 FRACTION SAMPLED

HAUL No. m64/2

LARGE/SMALL MESH 1

Cod

39

2/36 meas. 3

40		6	6	6
1	1	7	7	7
2	4	8	8	8
3	1	9	9	9
4	2	0	0	0
5	1	1	1	1
6	2	2	2	2
7		3	3	3
8	1	4	4	4
9		5	5	5
50	2	6	6	6
1		7	7	7
2	1	8	8	8
3	1	9	9	9
4	1	0	0	0
5	1	1	1	1
6	2	2	2	2
7		3	3	3
8		4	4	4
9	1	5	5	5
60	1			

1	1	COUNT		
2		RANGE		
3	1	FRACTION SAMPLED		
4	1	SPECIES		
5	2			
6				
7		Saithe.	$\frac{2}{50}, \frac{1}{52}, \frac{1}{55}, \frac{3}{59}, \frac{1}{60}$	= 8
8	1	Gurnard (grey).	$\frac{1}{36}$	= 1
9		S. unicolor.	$\frac{1}{54}, \frac{1}{60}, \frac{1}{65}$	= 3
70				
1		Herring	$\frac{1}{29}, \frac{1}{31}$	= 2
2				
3		Wras (green).	$\frac{1}{33}$	= 1
4				
5				
6	1	Inverts.	<i>Echinus erculantus</i> 2.	
7				
8	1/87	Loligo	$\frac{1}{16}, \frac{1}{22}$	
9				

33

COUNT
RANGE
FRACTION SAMPLED All.

HAUL No. M6G/3 DATE 9.3.64 AREA _____ LARGE/SMALL MESH _____

DURATION OF HAUL _____ No. of SHEETS 1

0	0	0
1	1	1
2	2	2
3	3	3
4	4	4
5	5	5
6	6	6
7	7	7
8	8	8
9	9	9
0	0	0
1	1	1
2	2	2
3	3	3
4	4	4
5	5	5
6	6	6
7	7	7
8	8	8
9	9	9
0	0	0
1	1	1
2	2	2
3	3	3
4	4	4
5	5	5
6	6	6
7	7	7
8	8	8
9	9	9
0	0	0
1	1	1
2	2	2
3	3	3
4	4	4
5	5	5
6	6	6
7	7	7
8	8	8
9	9	9

Belly Out

- No fish

COUNT RANGE FRACTION SAMPLED COUNT RANGE FRACTION SAMPLED COUNT RANGE FRACTION SAMPLED

HAUL No. m64/3.

LARGE/SMALL MESH 1

0	6	6	6
1	7	7	7
2	8	8	8
3	9	9	9
4	0	0	0
5	1	1	1
6	2	2	2
7	3	3	3
8	4	4	4
9	5	5	5
0	6	6	6
1	7	7	7
2	8	8	8
3	9	9	9
4	0	0	0
5	1	1	1
6	2	2	2
7	3	3	3
8	4	4	4
9	5	5	5

COUNT
RANGE
FRACTION SAMPLED
SPECIES

Belly Out - No fish

COUNT
RANGE
FRACTION SAMPLED

HAUL No. MB4/4 DATE 9.3.64 AREA..... LARGE/SMALL MESH

DURATION OF HAUL..... No. of SHEETS..... 1

0	0	0
1	1	1
2	2	2
3	3	3
4	4	4
5	5	5
6	6	6
7	7	7
8	8	8
9	9	9
0	0	0
1	1	1
2	2	2
3	3	3
4	4	4
5	5	5
6	6	6
7	7	7
8	8	8
9	9	9
0	0	0
1	1	1
2	2	2
3	3	3
4	4	4
5	5	5
6	6	6
7	7	7
8	8	8
9	9	9

Belly But
(18 Echinus in Cod end.)

COUNT	COUNT	COUNT
RANGE	RANGE	RANGE
FRACTION SAMPLED	FRACTION SAMPLED	FRACTION SAMPLED

HAUL No M64/4

LARGE/SMALL MESH 1

0	6	6	6
1	7	7	7
2	8	8	8
3	9	9	9
4	0	0	0
5	1	1	1
6	2	2	2
7	3	3	3
8	4	4	4
9	5	5	5
0	6	6	6
1	7	7	7
2	8	8	8
3	9	9	9
4	0	0	0
5	1	1	1
6	2	2	2
7	3	3	3
8	4	4	4
9	5	5	5

COUNT
 RANGE
 FRACTION SAMPLED
 SPECIES

Belly Bat!
 (18 *E. chemis* in Cadland.)

COUNT
 RANGE
 FRACTION SAMPLED