Not to be cited without prior reference to Marine Scotland, Marine Laboratory, Aberdeen.

FRV *Alba na Mara*

Cruise 1710A

PROGRAMME

2-16 December 2010

Loading: Leith, 30 November 2010
Unloading: Fraserburgh, 16 December 2010
No half landing

In setting the cruise programme and specific objectives, etc the Scientist-in-Charge needs to be aware of the restrictions on working hours and the need to build in adequate rest days and rest breaks as set out in Marine Scotland's Working Time Policy (Lab Notice 34/03).
In addition, the Scientist-in-Charge must formally review the risk assessments for the cruise with staff on-board before work is commenced.

In the interest of efficient data management it is now mandatory to return the Cruise Report, to I Gibb and the Cruise Summary Report (old ROSCOP form) to M Geldart, within four weeks of a cruise ending. In the case of the Cruise Summary Report a nil return is required, if appropriate.

Personnel

R Watret (SIC)
C Shand
M Gault
J Clarke

Out-turn days per project: MF01ta - 15 days

Equipment

Sandeel dredge x 2 (4' scallop dredge with 6" teeth and spare toothbars) with towing bar and camera attachment.
Day Grab
RoxAnn
TV Camera
Minilogger

Objectives

1) To determine the abundance, length and age of sandeels in the sediment in regions east of the Firth of Forth and Turbot bank.

2) To collect and preserve frozen samples of sandeels for analysis of age and maturity.

Procedure

All required gear will be loaded onto the vessel on 30 November. Some relevant equipment will have been used in the previous trip and this will be left aboard. Scientific staff will join the vessel on 1 December.

Two regions important to sandeel fishing (Figure 1) will be surveyed, near the Firth of Forth and the Turbot bank. In the first half of the survey a series of 8 dredge stations (previously surveyed between 1999 and 2003) near the Firth of Forth will be sampled in the same manner as in 2008 and 2009 (Table 1). Further stations in this region will be sampled if time permits. In the second half of the survey, the dredge will be deployed at station numbers 20-26 (Table 1) in order to sample areas covered previously. At all stations the dredge tows will be repeated depending on catch quantities up to a maximum of five times. Dredge duration will be approximately 10 minutes.

At each dredge station, all sandeels will be identified to species, measured and otoliths (5, 8 or 10 per half centimetre) will be taken for age determination at different lengths. From each of the survey locations, sub-samples of 100 sandeels < 9 cm and a 100 sandeels > 9 cm (age 1+) will be individually frozen for later analysis. Following the completion of survey work, *Alba na Mara* will return to Fraserburgh for unloading on 16 December 2010.

Normal contacts will be maintained with the laboratory.

Submitted:
R Watret
16 November 2010

Approved:
I Gibb
22 November 2010

Figure 1: Location of important sandeel fishing areas.

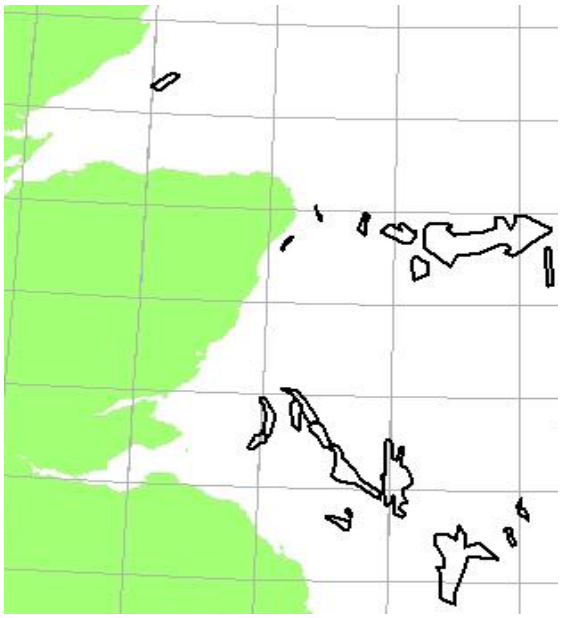

Table 1: Location of proposed dredge stations

FIRTH OF FORTH: KEY STATIONS									
station	depth	Latdeg shot	Latmin shot	Longdeg shot (W)	Longmin shot	Latdeg haul	Latmin haul	Longdeg haul (W)	longminhaul
1	46	56	6.059	1	20.594	56	5.583	1	20.546
2	51	56	7.741	1	23.398	56	7.034	1	23.315
3	37	56	13.578	2	3.493	56	13.866	2	3.072
4	41	56	14.493	2	2.552	56	14.807	2	1.877
7	29	56	24.952	2	26.441	56	24.974	2	25.634
8	44	56	25.027	1	58.279	56	25.017	1	59.27
9	49	56	27.915	1	43.268	56	27.858	1	44.405
10	42	56	21.846	1	41.504	56	21.93	1	42.124
ADDITIONAL FIRTH OF FORTH STATIONS									
11	41	56	15.019	2	1.714	56	15.402	2	1.218
12	44	56	15.168	1	58.908	56	14.641	1	58.99
13	42	56	22.693	1	55.998	56	23.207	1	55.917
14	53	56	20.029	1	31.233	56	20.431	1	31.453
15	43	56	25.096	1	36.895	56	25.138	1	37.416
16	49	56	28.069	1	35.672	56	28.522	1	35.641
17	45	56	4.036	1	19.526	56	3.84	1	19.721
18	54	55	47.703	1	19.703	55	47.252	1	19.692
19	60	56	40.053	1	48.026	56	40.123	1	48.766
AREAS FOR EXPLORATORY SURVEYS – TURBOT BANK									
20		57	15	0	15				
21		57	15	1	14.52				
22		57	15	0	45.42				
23		57	24	0	14.52				
24		57	24	1	45.42				
25		57	24	0	14.52				
26		57	25.2	1	46.434				