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FRV *Alba na Mara*

Cruise 1711A

PROGRAMME

24 November – 1 December 2011

Ports

Loading: Leith, 21 November 2011

Unloading: Leith, 1 December 2011

Personnel change: Rosyth Docks, 27 November 2011.

In setting the survey 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 survey with staff on-board before work is commenced.

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

Personnel

P Boulcott

J Clark

E Armstrong

C Mesquita

T Reilly (27/11 – 01/12)

Estimated days by project: 8 days ST0070

Sampling Gear

- International Young Gadoid Trawl PT154 with 6 mm Codend;
- Two 4' Sandeel dredges with 6mm cover and 6" teeth, spare tooth bars;.

Equipment

Seabird CTD, Day Grab and Table, 2mm sieves

Objectives

1. To undertake an acoustic survey of clupeid fish (and sandeels if present) in the water column using 38 and 120 kHz. Acoustic survey will be undertaken in the Firth of Forth

and off St Andrews Bay as indicated in Figure 1. Concentrations of fish will be sampled using the pelagic trawl.

2. To conduct a RoxAnn survey of the substrate along all acoustic survey track (Figure 1).
3. To sample 1+ aged sandeels at previously established stations on the Wee Bankie, Marr Bank, Berwick's Bank, and St Andrew's Bay (Figure 2) using the sandeel dredge.
4. To sample 0 group sandeels at each visited dredge station by means of random drift Day grab survey.
5. To sample variation in water temperature and salinity through the water column using a Seabird CTD sampler at fishing and dredge stations and on the acoustic transect.

Procedure

Scientific equipment will be loaded onto *Alba na Mara* on 21 November.

The cruise will follow the following protocol:

Scientists will join the vessel at approximately 1330h on the afternoon of Wednesday 23 November to allow for an early departure time on 24 November. If conditions allow, the acoustic survey will take place over the next 3 days, covering the tracks indicated in Figure 1. Whilst undertaking acoustic survey, the vessel will start work at 0600h and finish at 1800h. Concentrations of pelagic fish will be sampled using the pelagic trawl for species composition, length-frequency distribution, weight at length and age at length analysis. Samples will be retained and frozen for subsequent sex, maturity, and condition analysis in the laboratory. It is hoped that there will be sufficient time to fish two to three times on each of the surveyed days. The CTD will be deployed each time that the vessel stops to fish. Additional CTD samples at the mouth of the Firth of Forth, St Andrews Bay, and off the acoustic tracks may also be taken, time permitting.

Once the acoustic survey is completed the vessel will berth at Rosyth Docks (provisionally, the evening of the 26 November). The vessel's routine will switch thereafter from day-time to night-time working mode, working between 1800h and 0600h. An additional member of scientific crew will join the vessel at this juncture. In the days that follow, *Alba* will sample as many of the dredge stations on the Wee Bankie, Marr Bank, Berwick's Bank, and St Andrew's Bay indicated in Figure 2 as is possible. The CTD will be deployed at each dredge station prior to deploying the dredge. At each station the dredge will be deployed twice. Total catch size will be determined and sub-samples examined to assess length-frequency distribution, weight at length and age at length relationships. Further sub-samples will be retained and frozen for subsequent sex, maturity, and condition analysis in the laboratory. *Alba na Mara* will then drift across sampled dredge stations before the wind between three and five times deploying the Day grab repeatedly until between 50 and 80 adequate grab samples have been collected at each station. All sandeels collected will be weighed, measured, have their otoliths extracted, and the 0-group frozen and retained for subsequent analysis in the laboratory.

Work will cease on the night of 30 November/1 December in time to allow the vessel sufficient time to be in Leith by 0600h.

Scientists will leave the vessel and scientific equipment and samples will be offloaded on Thursday 1 December.

Normal contacts will be maintained with the Marine Laboratory.

Submitted:
P Boulcott
08 November 2011.

Approved:
I Gibb
11 November 2011

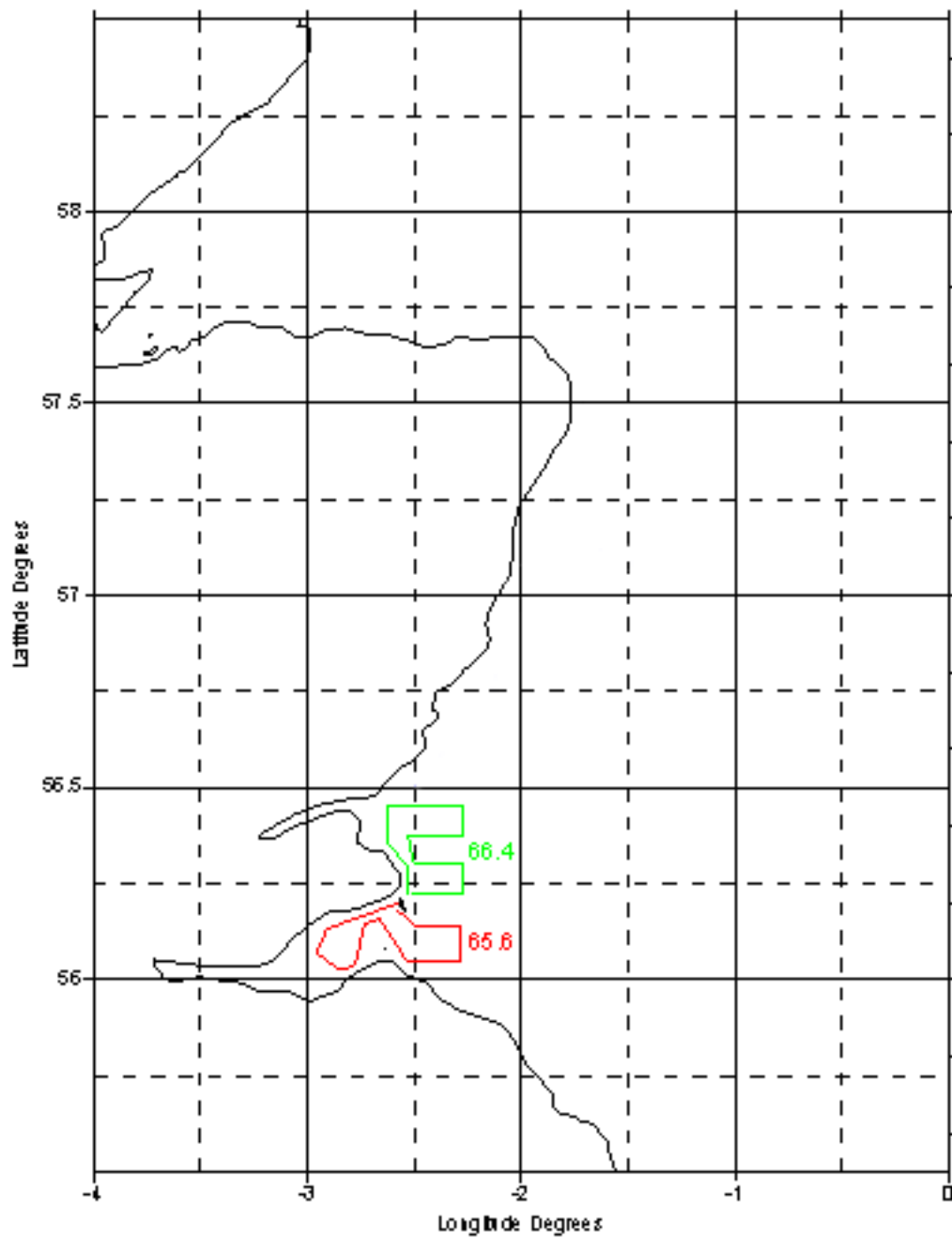


Figure 1: Acoustic survey tracks

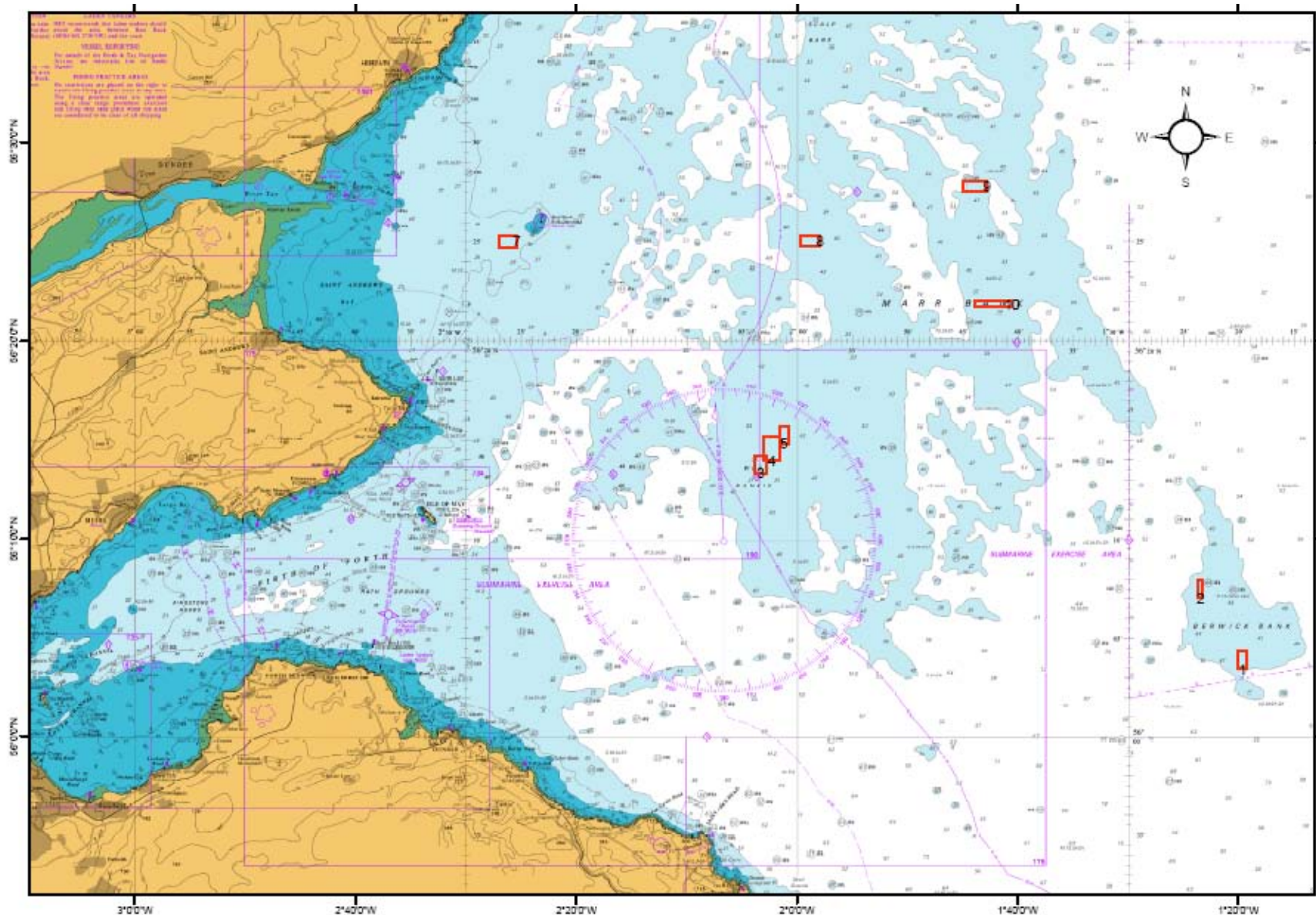


Figure 2: Dredge stations denoted in red.