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FRV *Alba na Mara*

Cruise 1610A

PROGRAMME

22-29 November 2010

Ports

Loading: Fraserburgh, 16 November 2010

Unloading: Leith, 29 November 2010

Half Landing: None

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.

Estimated days per project: 8 days - MF0172

Personnel

S Greenstreet (SIC)

P Boulcott

E Armstrong

C Greathead

J Clarke

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 on route from Fraserburgh to the Tay, 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 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 opportunistically whenever the vessel stops.

Procedure

Scientific equipment will be loaded onto *Alba na Mara* on 16 November.

The cruise will follow one of two options:

Option 1

If the weather forecast is reasonably good for the first few days, allowing acoustic survey to be undertaken on route to the main study area off the Firth of Forth, scientists will join the vessel at approximately 1700 on the evening of Sunday 21 November to allow for an early departure time on 22 November. If conditions allow, acoustic survey will then continue over the next two days covering the track indicated in Figure 1. Whilst undertaking acoustic survey the vessel will start work at 0600h and finish at 1800. 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 should be sufficient time to fish once on route south to the main study area, and two to three times each of the following days. The CTD will be deployed each time that the vessel stops to fish.

Once acoustic survey is completed the vessel will lie at anchor through the following day-time period to switch to a night-time working mode, working between 1800h and 0600h. During this time *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 station before the wind between 3 and 5 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 then frozen and retained for subsequent analysis in the laboratory.

Work will cease on the night of Sunday 28 in time to allow the vessel sufficient time to be in Leith by 0600.

Option 2

Should weather forecasts for the early part of the cruise be less favourable, then scientists will join the vessel during the morning of Monday 22 November. The vessel will leave Fraserburgh during the late afternoon and sail south to the most opportune anchorage during the night. The vessel will thereby start the cruise in night-time working mode and will continue working over the following three nights carrying out dredge and day-grab sampling at as many as possible of the stations indicated in Figure 2 as possible, and as described above. The vessel will lie to during the night of Friday 26 November to switch to day-time working and on 27 and 28 November will carry out acoustic survey and pelagic fishing over the track shown in Figure 1 in St. Andrew's Bay and the Firth of Forth. The vessel will sail for Leith late on Sunday 28 November or early on Monday 29 November.

Scientists will leave the vessel and scientific equipment and samples will be offloaded on Monday 29 November. Normal contacts will be maintained with the Marine Laboratory.

Submitted:
S Greenstreet
1 November 2010

Approved:
I Gibb
8 November 2010

Figure 1: Acoustic Survey track

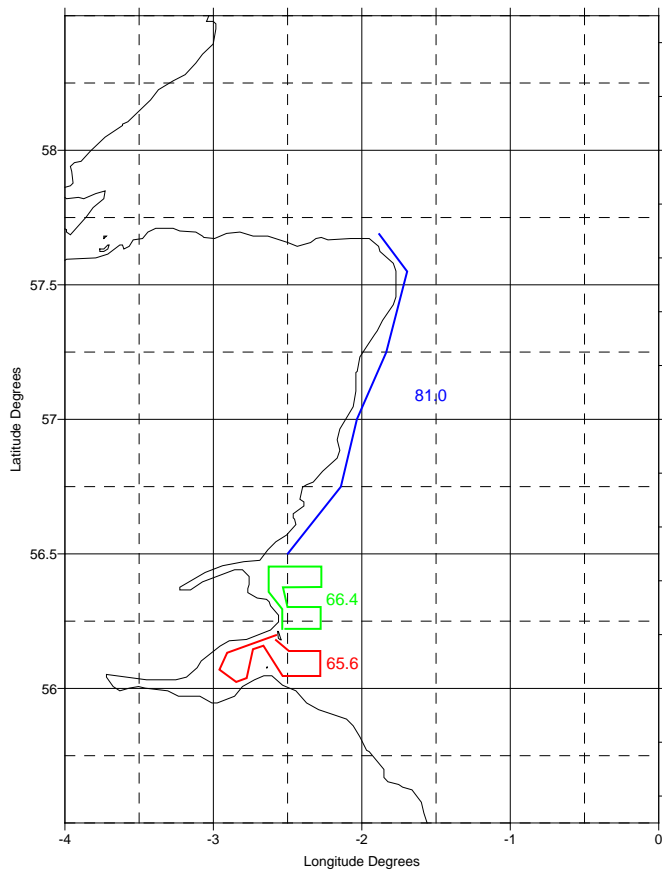


Figure 2: Dredge Stations

