

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

FRV *Alba na Mara*

Cruise 0711A

PROGRAMME

3-17 June 2011

Ports

Loading: Leith, 01 June 2011

Sailing: Leith, June 3 2011

Unloading: Fraserburgh, 17 June 2011

Half Landing: (provisional) Montrose, Thursday 9 or Friday 10 June

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.

Scientific personnel

3 – 9 June

Simon Greenstreet	SIC
Philip Boulcott	
John Clarke	
Laura Morley	
S Kinnear	

9 -17 June

Simon Greenstreet	SIC
Philip Boulcott	
John Clarke	
Eric Armstrong	
Margarita Machairopoulou	

Estimated days by project: 15 days, ST0070

Sampling Gear

- International Young Gadoid Trawl PT154 with 6 mm Codend
- Jackson Rockhopper Trawl BT158 with 10 mm Codend

Equipment

Seabird CTD, water sample bottles, dual Bongo net, formaldehyde sample bottles, 1m Ring Net, Inshore Fisheries' prawn sorting table.

Objectives

1. To assess abundance, length-frequency-distribution, and weight-at-length of demersal fish predators at 19 fixed stations in the area off Wee Bankie by demersal trawl survey. Samples will be retained for stomach analysis at a later date.
2. To sample variation in water temperature, salinity and fluorometry through the water column using a Seabird CTD sampler at all demersal trawl stations and at 38 locations on and between the demersal trawl stations.
3. To undertake an acoustic survey of sandeels and clupeid fish in the water column using 38 and 120 kHz. Concentrations of fish will be sampled using the pelagic trawl. Species composition and length frequency distributions of fish caught will be determined. Sub samples will be weighed and their otoliths removed to establish length-weight relationships and age composition.
4. To conduct RoxAnn survey of the substrate along all acoustic survey tracks.
5. To conduct seabird at sea survey and survey of marine mammals along the acoustic survey track.
6. To assess variation in the abundance and composition of the zooplankton community through a combination of acoustic survey and sampling using both the dual bongo net and the 1m ring net. CTD transects may also be performed at each deployment.

Procedure

Scientific equipment will be loaded onto *Alba na Mara* on 1 June at Leith docks. Scientists will join the vessel on the afternoon of Thursday 2 June. *Alba na Mara* will make passage to the study site the following morning to begin the demersal fish sampling phase of the cruise. It is hoped that between 3 June and the evening of 8 June a total of 19 trawl stations will be fished using the BT158. All of these stations have been fished in previous cruises. Each catch will be worked up to determine numbers at length of all species caught. Trawl performance characteristics will be monitored using Scanmar equipment to enable swept area to be determined. Catch size can then be converted to point density estimates. Size stratified samples of cod, haddock and whiting will be weighed to determine their length-weight relationships. Samples of fish will be retained for analysis back at the laboratory to determine diet and food consumption rates, energy reserve status and age. Prior to each demersal fishing operation, the Seabird CTD sampler will be deployed. In addition, further deployments of the CTD will be made between fishing stations. On completing the demersal fish survey, weather permitting, *Alba na Mara* will steam for Montrose to arrive by the evening of Wednesday 8 June (provisional). During this half landing the demersal trawl will be exchanged for the pelagic trawl. L Morley and S Kinnear will depart at this time and M Machairopoulou and E Armstrong will join.

Alba na Mara will leave Montrose on the evening of Thursday 9 June (or Friday 10 June if the half landing is delayed for any reason) to find anchorage nearer the study site. Work on the acoustic survey will commence the following morning and will continue over the next five days, mostly between 0430 and 1530 hours. The vessel will start work on each day so as to be on station by 0430 hours. Concentrations of pelagic fish will be sampled using the PT154, aiming to fish twice each day if possible. Trawl samples will be worked up to determine the total catch at length of each species. Sub-samples of herring, sprats and sandeels will be weighed to determine length-weight relationships, and have otoliths removed for age composition assessment back at the laboratory. RoxAnn data will be collected along the same acoustic transects to enable the development of seabed sediment

maps. Seabirds at sea data will also be collected using standard transect census methods to determine the numbers of seabirds using the study area on a daily basis, and their distribution over the area. This acoustic survey work will require approximately 5 days.

If time and weather permits, the 1m ring net will be deployed to sample larger zooplankton organisms during the acoustic survey. Additional time after this survey will be devoted to the deployment of the 1m ring net. Acoustic survey work will cease in time to arrive in Fraserburgh by 17 June. The scientific equipment will be offloaded at the earliest opportunity on Friday 17 June, and the scientists will leave the vessel.

Normal contacts will be maintained with the Marine Laboratory.

Submitted:

P Boulcott

19 May 2011

Approved:

I Gibb

19 May 2011

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PROGRAMME AMENDMENT

S Greenstreet will not participate on 0711A.

J Hommelhoff will join for the first half of the cruise 3-9 June 2011.

I Gibb

02 June 2011