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MRV *Alba na Mara*

Survey 1412A

PROGRAMME

13 August -1 September 2012

Ports

Loading: Leith, 11 August 2012

Unloading: Fraserburgh, 1 September 2012

Half Landing and scientific crew changes: Montrose, 19 & 25 August (provisional)

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 cruise 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

13 – 18 Aug.		19 - 25 Aug.		26 Aug. – 1 Sep.	
P Boulcott	SIC	P Boulcott	SIC	P Boulcott	SIC
J Clarke		J Clarke		J Clarke	
E Armstrong		T Reilly		T Reilly	
C Greathead		J Rasmussen		J Rasmussen	
S Robinson		S Wallace		TBC	

Estimated days by project: 20 days - 10861

Sampling Gear

- International Young Gadoid Trawl PT154 with 6 mm Codend
- Jackson Rockhopper Trawl BT158 with 10 mm Codend
- Dual bongo net with 200 um mesh

Equipment

Seabird CTD, water sample bottles, formaldehyde sample bottles.

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 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 track.
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 at the 38 CTD stations using the dual bongo net (200 µm mesh).
7. To assess abundance and length-frequency-distributions of demersal fish communities at 15 - 20 new demersal trawl stations within the normal study area.

Procedure

Scientific equipment will be loaded onto *Alba na Mara* on Saturday 11 August at Leith Docks. Scientists will join the vessel on the morning of Monday 13 August. *Alba na Mara* will make passage to the study site to begin the acoustic survey. Work will continue over the next five days between 0430 and 1530 hours (all times UTC). Concentrations of pelagic fish will be sampled using the PT154, with the aim 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 their 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. It is expected that the acoustic survey work will end on the 18 August in readiness for the half landing and crew change in Montrose (port entry times TBC with skipper). During this half landing the pelagic trawl will be exchanged for the demersal trawl.

The second half of the survey will be devoted to demersal fish sampling. 38 trawl, CTD and plankton stations will be surveyed at during this phase. Trawl (BT158) performance characteristics will be monitored using Scanmar equipment to enable swept area to be determined. Each catch will be worked up to determine numbers at length of all species caught. 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 these species will be retained for analysis back at the laboratory to determine diet and food consumption rates, energy reserve status and age.

A further crew change at Montrose will take place on the evening of the 25 August (port entry times TBC with skipper) *Alba na Mara* will resume work to complete the remaining standard trawl stations before continuing to fish at a further 15 additional new demersal stations.

Fishing will cease in time to arrive in Fraserburgh by the evening of the 31 August. The return route will follow a prescribed acoustic transect. The scientific equipment will be offloaded and the scientists will leave the vessel.

Normal contacts will be maintained with the Marine Laboratory.

Submitted:

P Boulcott

25 July 2012.

Approved:

I Gibb

26 July 2012

Figure 1. Proposed acoustic survey track. The north south transect will be sampled during the homeward voyage.

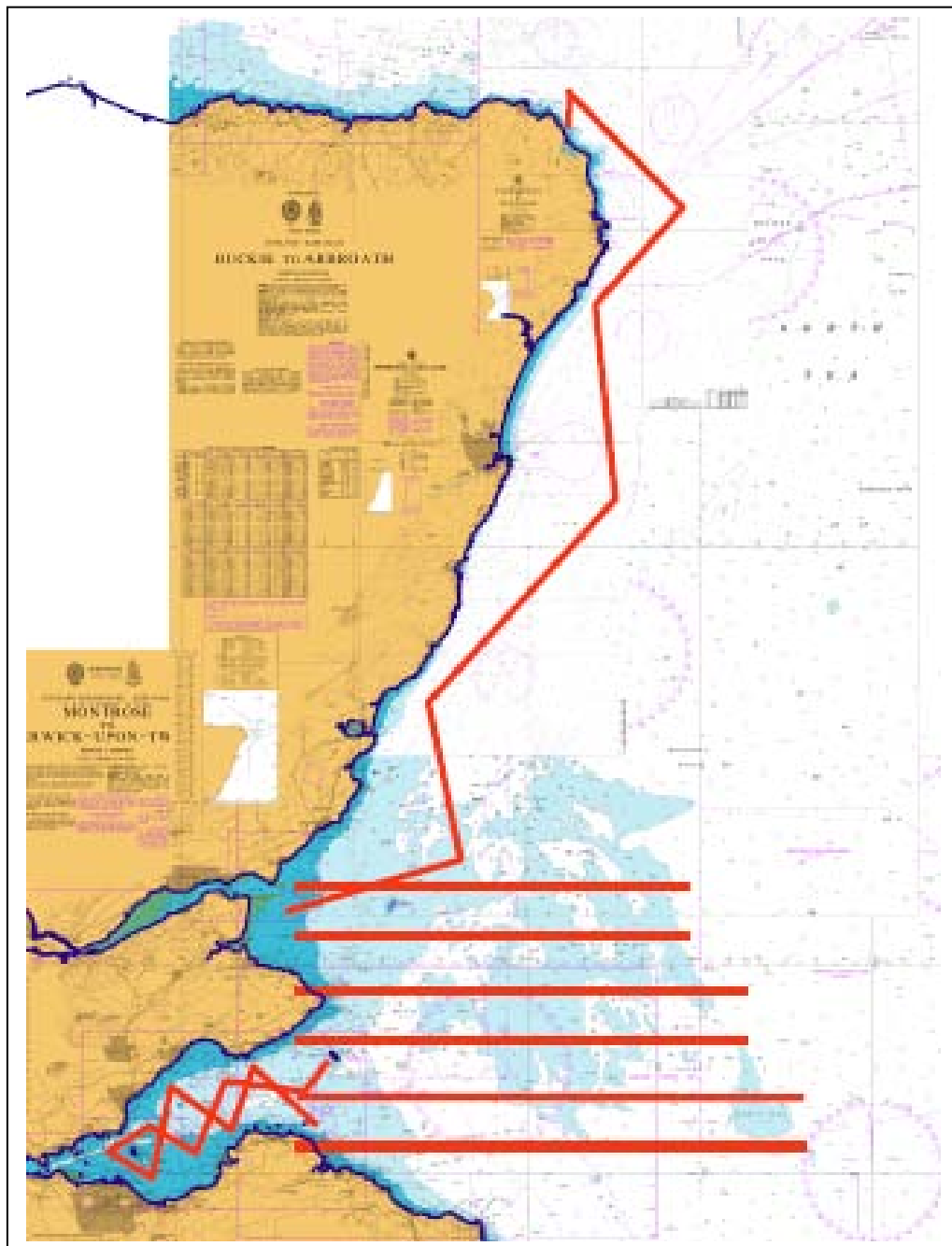


Figure 2. Map of the demersal fishing locations.

