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

FRV *Scotia*

Cruise 0710S

PROGRAMME

4-24 June 2010

Loading: Aberdeen 1 June 2010
Sailing: Aberdeen 4 June 2010
Half landing: Greenock
Unloading: Aberdeen 24 June 2010

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

A Weetman (SIC)
C Shand
A Tait
L Allan
G Jones
H Dobby (Part 1)
C Mesquita (Part 1)
P Gibson (Part 2)
J Hommelhoff (Part2)

Estimated days by project: 8 days RV1007 10726 (North Sea)
13 days RV1008 10727 (West Coast)

Gear

2 x Scotia BT175 60mm prawn trawls
Day grab and sieving table
Towed UWTV sledge and UWTV drop frame
2 x 600m umbilical towing cables and associated TV equipment (including back up)

Objectives

1. To obtain estimates of the abundance and distribution of *Nephrops* burrows at the Fladen, The North Minch, the South Minch, in the Firth of Clyde and at Devil's Hole. If time and weather permits, stations in the Sound of Jura and at the Noup will also be surveyed.
2. To use the TV footage to record occurrence of other benthic fauna and evidence of commercial trawling activity.
3. To collect sediment samples at each station.
4. To carry out trawling for *Nephrops*, based on one haul in each sediment stratum in each of the main survey areas, and to obtain samples of *Nephrops* for size composition analysis.
5. To collect samples of *Nephrops* for comparison of reproductive condition and morphometrics in each of the different survey areas (functional units)
6. To collect EK60 Roxann data throughout the cruise.

Procedures

The main areas in which the survey will take place, which are known as functional units, have been surveyed before and are shown in Figure 1. A combination of two approaches will be used to derive the survey positions. The stations will be generated by employing the traditional stratified random technique, and also using commercial effort based data obtained from the Vessel Monitoring System. All TV station positional data will be provided ahead of the cruise. It is planned that the vessel will first steam to the deep water in the Southern Trench (in the East of the Moray Firth) where a training session in deploying the sledge and approximately 450m of the cable will be carried out, before recovering the sledge with the cable under tension and then progressing on to the first of the *Nephrops* burrow TV stations at the SW edge of the Fladen ground. Once Fladen has been completed, the vessel will then steam around to the west coast and survey stations in the North and South Minches and the west of the Firth of Clyde before calling into Greenock for the half landing.

At this time, there will be a scientific staff change. On leaving Greenock the remaining stations in the Clyde will be completed before surveying the Sound of Jura (if time and weather permits). The remaining South and North Minch stations will then be completed whilst working north. If practical, stations in the Noup will be surveyed prior to carrying out any additional stations in Fladen (if required) before heading to the final survey area at the Devils Hole.

TV observations will be made throughout a 24 period by three teams of two people. Each team will work 8 hour shifts involving deploying and recovering the TV equipment. There will be a requirement for staff to review video footage at sea outwith their shift period, as well as assisting in working up trawl catches. At each station a video camera mounted on the sledge will be towed along the seabed for approximately 10 minutes – dynamic positioning control will be required for this. Records of *Nephrops* burrows, *Nephrops* and other benthic fauna will be recorded onto DVD for analysis. The depth and distance travelled by the sledge as well as camera height will also be automatically recorded. Where practical sediment samples will be taken using the mini van Veen grab mounted on the sledge. However it may be necessary to use the Day Grab on occasion, if the mini van Veen fails.

Trawl caught samples of *Nephrops* will be collected and data on size composition, maturity and morphometrics will be recorded. Up to four trawls will be made in each of the main grounds (functional units) surveyed. The trawl will be required to be cleaned by 'streaming' it behind the vessel for 15 minutes between the main fishing areas.

Throughout the survey, where practical the EK60 Roxann system will be required to record seabed data.

Normal contacts will be maintained with the Laboratory.

Submitted:
A Weetman
13 May 2010

Approved:
I Gibb
17 May 2010

Survey areas for Scotia 0710S

