P17/15

Not to be cited without prior reference to the FRS Marine Laboratory, Aberdeen

FRV Scotia

Cruise 0708S

PROGRAMME

5-25 June 2008

Personnel

A Weetman (In Charge)
A McLay
C Shand
A Tait
G Jones
N Campbell (1st half)
A Mill (1st half)
J Hunter (1st half)
H Dobby (2nd half)
J Clarke (2nd half)

Loading: Aberdeen 3 and 4 June 2008
Sailing: Aberdeen 5 June 2008
Half landing: Greenock
Unloading: Aberdeen 25 June 2008

Estimated days by project: 9 Days RV0804 10557 (Fladen)
12 Days RV0805 10580 (West Coast)

Gear

Scotia BT175 60mm prawn trawls
Day grab
Towed UWTV sledge and UWTV drop frame
600m Umbilical towing cables and cameras (including back up)
Associated TV and electrical equipment
Tanks for holding live fish

Objectives

1. To obtain estimates of the abundance and distribution of *Nephrops* burrows in the Fladen Ground, The North Minch, the South Minch, Sound of Jura and the Firth of Clyde. If time permits stations in 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 *Nephrops* trawling, one haul in each sediment stratum in each of the main survey areas, and to obtain samples for size composition analysis

5. To collect samples of *Nephrops* for comparison of reproductive condition and morphometrics in different survey areas (Functional Units)

6. To collect hagfish on behalf of the University of Leicester.

7. To collect samples of various species of fish for SMRU.

Procedures

The main areas in which the survey will take place, which are known as Functional Units, have been surveyed in previous years. A stratified random survey design will be used to derive survey positions in all the Functional Units, and details of these positions will be made available in advance of sailing. The Functional Units to be surveyed are shown in Figure 1. It is planned that the vessel will begin the survey around the SW edge of the Fladen ground, and work north. The vessel will then steam to the west coast and survey stations in the North and South Minch, Sound of Jura and the Firth of Clyde. Time permitting, stations at the Noup and additional stations at Fladen will be surveyed on the return leg of the journey

TV observations will be made throughout a 24 period by three teams working 8 hour shifts. At each station a 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 further analysis. The distance travelled by the sledge, depth and camera height will also be recorded on to a PC. Where practical sediment samples will be taken using the mini Van Veen grab mounted on the sledge. It may be necessary to use the Day Grab on occasion.

Trawl caught samples of *Nephrops* will be collected and data on size composition, maturity, weight and morphometrics will be recorded. Up to four trawls will be made in each of the Functional Units surveyed.

Samples of whiting, dragonet, poor cod, Norway pout and various flat fish are to be collected from trawl catches and frozen. These samples are to be used in harbour seal feeding experiments, which will be carried out by SMRU.

To assist studies at the University of Leicester, live hagfish obtained from trawling will be kept in tanks on board; dead samples will be frozen.

Normal contacts will be maintained with the Laboratory.

J A Morrison
2 May 2008

Figure 1: Areas to be covered on Scotia 2008 TV survey.