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

MRV *Alba na Mara*

Survey 1113A

PROGRAMME

14 – 30 August 2013

Ports

Loading: Fraserburgh, 12 August 2013
Sailing: Fraserburgh, 14 August 2013
Unloading: Fraserburgh, 30 August 2013

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
H Dobby (first half)
K Boyle (second half)

Project name: RV1311, 17 days.
Project number: 20218

Gear

60 mm prawn trawl BT 201
2 x Day grabs and 1 x sieving table
Towed TV sledge, 600m umbilical towing cable and cameras (plus backup)
TV drop frame (large version)
Lasers and bracket for drop frame
Prawn sorting table

Objectives

- To obtain estimates of the distribution and abundance of *Nephrops* burrows in the Firth of Forth, Moray Firth and, if time allows, off Arbroath using underwater cameras.

- To use the TV footage to record the occurrence of other benthic fauna and evidence of commercial trawling activity.

- To collect trawl caught samples of *Nephrops* for comparison of reproductive condition and morphometrics in each of the different survey areas.

- If time permits, deployments of the sledge and then the drop frame will be carried out on the same ground to compare *Nephrops* burrow density estimates obtained using the two different methods.

Procedure

Where possible, a random stratified approach will be adopted to investigate *Nephrops* burrow density in different regions of the study areas.
A list of proposed stations for the survey will be made available to the ship's complement prior to the cruise.

1. TV Observations:

At each station a video camera mounted on a sledge will be towed across the seabed for approximately 10 minutes at approximately 1 knot. *Nephrops* burrows abundance, other benthic fauna and signs of anthropogenic activity will be recorded on to DVD. Distance traveled by the sledge, the depth at which the sledge is at and camera height from the seabed will be monitored and recorded using a range finder mounted on the sledge.

2. Trawling:

Fishing trawls of approximately 30 minutes duration will be made within each sediment type within each survey area. A range of biological and morphometric data will be collected on *Nephrops* and other shellfish obtained from the catch.

3. Drop Frame:

The drop frame will be used where conditions are not suitable for using the TV sledge, recording similar data as to that of the TV sledge.

4. Comparative work:

Following on from work carried on previous cruises the sledge will be deployed in very close, parallel tracks approximately 200m in length (10 minutes towing time) on known *Nephrops* grounds. Video footage and all observed data will be recorded as usual. Following this, the drop frame will be drifted across the same area at 90^{o} to the sledge tracks. The frequency of this operation will depend on the weather and time available.
The burrow density estimates obtained using the different set ups will be compared.

General

TV work will normally take place during daylight hours.

There will be a requirement for some trawling to take place in the evening. On days where trawling will take place, work patterns will be arranged so not to exceed WTD recommendations.

It is proposed that work will initially commence in the Firth of Forth and then the Moray Firth.

There will be a change of scientific staff at the half landing. The date of the half landing will be confirmed nearer the time depending on weather and how the work is progressing.

Normal contacts will be maintained with the laboratory.

Submitted:
A Weetman, 29 April 2013

Approved:
I Gibb, 30 July 2013.