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

FRV *Clupea*

Cruise 1007C

PROGRAMME

11-25 July 2007

Ports

Loading: Fraserburgh
Sailing: Fraserburgh
Unloading: Fraserburgh

***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 FRS' Working Time Policy (which is published on the Intranet). In addition, the Scientist-in-Charge must formally review the risk assessments for the cruise with staff on-board before work is commenced.**

Personnel

*A Weetman (OIC)
C Shand
N Campbell

Adrian Tail will join Clupea at Invergordon on the evening of 21 July and will remain on board until the completion of the cruise on 25 July.

Gear

50 mm prawn trawl BT 149B.
Day grab and table
Towed TV sledge, umbilical towing cable and cameras (plus backup)
TV drop frame
Creel frame

Objectives

- To obtain estimates of the distribution and abundance of *Nephrops* in the Firth of Forth and Moray Firth using underwater cameras.
- To collect sediment samples at each station.
- To use trawl caught samples of *Nephrops* to examine biological features at different sites throughout the survey areas.

- To record benthic fauna interactions with a creel whilst *in-situ*.

- The TV survey will also be used to collect data on other benthic fauna.

Estimated Project Time:

15 Days RV0710

Procedure

Where possible, a random stratified approach will be adopted to investigate *Nephrops* density in different regions of the study areas.
A list of proposed stations for survey will be made available to the ship's compliment 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. Observations on *Nephrops, Nephrops* burrows abundance and other benthic fauna will be recorded on to DVD. Distance traveled by the sledge, the depth the sledge is operating at and camera height will be monitored. Samples of the sediment will be taken at each station using the sledge mounted mini Van Veen sediment grab. If this system fails at any time, the traditional winch operated Day grab will be deployed. Sediment samples will be frozen.

2. **Trawling:** Fishing trawls of approximately 30 minutes duration will be made on each sediment type within each Functional Unit (i.e. the Moray Firth and the Firth of Forth). A range of biological data will be collected on *Nephrops* and other shellfish.

3. **Drop Frame:** The drop frame will be used where conditions are not suitable for using the TV sledge, recording similar data as to the TV sledge.

4. **Creel Frame:** The creel cam frame will be deployed on suitable sediment types, with a baited creel and video recording units attached. It is intended that this system is in operation whilst the vessel is at anchor, launching the frame in the evening and recovering the frame in the morning.

General

TV work will normally take place during daylight hours. There may be a requirement for some trawling to take place in the evening. It is proposed that work will commence in the Firth of Forth.

Normal contact will be maintained with the Laboratory.

J A Morrison
13 June 2007