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

FRV *Clupea*

Cruise 1205C

PROGRAMME

19-29 August 2005

Ports

Loading: Fraserburgh
Unloading: Gairloch

***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.**

In the interest of efficient data management it is now mandatory to return the Cruise Report, to John Morrison and the Cruise Summary Report (old ROSCOP form) to Dougal Lichtman, within four weeks of a cruise ending. In the case of the Cruise Summary Report a nil return is required, if appropriate.

Personnel

*Barry O'Neill
Mike Breen
Dave Bova
Keith Summerbell
Morag Campbell
Jim Mair
Martin Burns
Leonie Robinson (24 – 28 August)
AN Other (Environmental Impact Group) (22 – 29 August)

Equipment

BT158 (or is it BT157)
Divers towed underwater vehicle (TUV)
Scanmar sensors
5 and 2 tonne load cells
Day grab kit (including table)
Sieve table

Objectives

To develop methodologies to measure the immediate physical, ecological and environmental impact of trawling. In particular we will measure:

- the penetration depth of the trawl doors, sweeps and ground gear,
- the immediate ecological impact caused by the trawl doors, sweeps and ground gear on benthic invertebrate communities,
- the particle size, nutrient (CHN) and cyst data in the sediment plumes put into suspension behind the trawl doors, sweeps and ground gear.

Procedure

The *Clupea* will leave Fraserburgh on 19 August and steam to Gairloch, Wester Ross. On the same day the dive team and Martin Burns will drive to Gairloch and set up the harbour based dive site. When the *Clupea* arrives in Gairloch final rigging of the divers towed vehicle (TUV) will take place. After completing work-up dives diving operations will begin with the *Clupea*.

Day grab and water samples will be taken before each tow to get particle size, nutrient (CHN) and cyst data to compare to the plume samples.

The diving operations carried out in conjunction with each tow or 'trawl impact' will comprise: during a tow, divers in the TUV marking the tow path, filming trawl impact and taking sediment plume samples at known positions behind the trawl doors, sweeps and groundgear; and after hauling, along three transects of the tow path, divers profiling the sea bed and taking core samples of the infauna.

The sediment plume samples will be filtered, subsampled and stored on board the *Clupea*. Analysis of the suspended solids, particle size and nutrient will take place on return to the Laboratory. The core samples will be sectioned, sieved over a 0.5 mm mesh and stored in formaldehyde on the *Clupea*. Subsequently the infaunal community will be quantified by functional type.

The *Clupea* will be required to tie up each evening at Gairloch pier. The first six personnel listed above will stay aboard the Clupea from 20–29 August. The other three will stay ashore.

J A Morrison
5 August 2005