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

FRV Clupea

Cruise 1407C

PROGRAMME

2-19 October 2007

Loading: 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.**

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	
Jim Hunter	
Mike Robertson	
Chris Hall	
Martin Burns	9-19 October
Eric Armstrong	2-13 October
Andy Revill (CEFAS)	13-19 October
Jochen Depestele (ILVO, Belgium)	13-19 October
Mike Breen	Shore Based
Keith Summerbell	Shore Based
Morag Campbell	Shore Based
Jim Mair	Shore Based
Iain Gibb	Shore Based

Gear

Divers TUV (net drum and towing wire)
Day grab
Quad of Nitrox
BT158 and modified Morgere doors
Laser-camera profiler
Diving equipment and divers hand held camera
High resolution load cell and accelerometer
LISST 100X

Objectives

(i) To measure the immediate physical, ecological and environmental impact of a trawl gear on medium-fine sand and on mud.

(ii) To measure the immediate physical, ecological and environmental impact of a beam trawl on medium-fine sand.

The Clupea will leave Fraserburgh and head to the Lossiemouth area where testing of the trawl engineering instrumentation will take place. The Clupea will anchor that evening in Nairn Bay ready to commence trials the following morning in conjunction with the shore based dive team. Over the course of the cruise a number of operations will take place in Nairn Bay with the otter trawl and between Lossiemouth and Burghead with the otter trawl and beam trawl. These will include:

(i) Towing the fishing gear while divers film and measure the large scale dimensions of the plume from the TUV, the particle size of suspended sediment using the LISST 100X and take water samples in the plume behind the trawl doors.

(ii) Taking core samples in an area, towing the fishing gear through that area and subsequently taking core samples outside the tow path and inside the impacted area.

(iii) Measuring the physical impact to the seabed outside the tow path and inside the impacted area using the laser-camera profiler.

The sediment plume samples will be filtered, sub-sampled and stored onboard 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 0.5mm mesh and stored in formaldehyde on the Clupea. Subsequently the infaunal community will be quantified by functional type.

High resolution engineering data will be collected during the cruise using the load cells and accelerometers. The day grab will be sued to collect sediment samples at each location and the side scan sonar will be deployed to collect bathymetric data.

It is envisaged that, depending on progress, the trawl will be unloaded and the beam trawl loaded around 12/13 October at Buckie. The cruise will end at Fraserburgh on 19 October.

Normal contact will be maintained with the Marine Laboratory.

J A Morrison
13 September 2007