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FRV **Clupea**

Cruise 1307C

14 -27 September

REPORT

Personnel

Barry O'Neill
Mike Breen
Keith Summerbell
Morag Campbell
Jim Mair
Martin Burns

Gear

Benthic sledge
Divers TUV (net drum and towing wire)
Day grab.
Quad of Nitrox.
Scallop dredges (commercial) (one beam modified to tow benthic sledge)
Laser-camera profiler
Diving equipment and divers hand held camera
High resolution load cell and accelerometer
LISST 100X
80 litres petrol

Objectives

(i) to quantify the amount of sediment put into suspension in the wake of a scallop dredge;

(ii) to measure the large scale dimensions of the plume and to measure the particle size of the suspended sediment at a number of points behind the plume;

(iii) to assess the removal of and the damage to infaunal macrobenthic species.

Narrative

The scientists drove to Oban and took the RIB to Colonsay by ferry on Friday 14 September. The departure of Clupea was delayed by 12 hours due to poor weather. She arrived at Colonsay late Sunday afternoon at which point the scientists boarded the vessel

Over the course of the cruise 23 tows took place and a number of different operations were carried out. These included:

(i) towing a single scallop dredge and the benthic sledge with LISST 100X attached from the same beam.

(ii) towing a single scallop dredge from a single beam and divers measuring the large scale dimensions of the plume from the TUV and the particle size of suspended sediment using the LISST 100X at positions 1, 5, 10 and 20m behind the dredge.

(iii) towing three scallop dredges from a single beam and divers measuring the large scale dimensions of the plume from the TUV and the particle size of suspended sediment using the LISST 100X at positions 1, 5, 10 and 20m behind the dredge.

(iv) divers taking core samples along a 50m transect, towing a single scallop dredges through that area and subsequently taking core samples inside and outside the tow path and measuring the physical impact to the seabed using the laser-camera profiler.

The core samples were sieved over a 0.5mm mesh and stored in formaldehyde. The infaunal community will subsequently be quantified by functional type. Sediment samples were taken at the site using the day grab and will be used to put the LISST 100X measurements in context.

Owing to a very poor weather forecast the Clupea returned to Fraserburgh a day ahead of schedule and the scientists returned to Aberdeen via Oban.

Barry O'Neill
2 November 2007