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

FRV *Clupea*

Cruise 1507C

PROGRAMME

30 October – 15 November 2007

Ports

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

Alistair McIntosh

Margaret McKenzie

Gillian Packer

Lynette Richie (part time)

Maia Strachan (part time)

Fishing gear: BT 158 (10mm cod-end); 2m beam trawl

Objectives

1. To undertake fish and sediment sampling in the Clyde and Minch areas in support of the temporal trend and biomarker monitoring studies.
2. To undertake sampling of flounder in St Andrews Bay and the upper Firth of Forth.
3. To undertake sampling of flounder collected from upper Clyde on behalf of SEPA West.
4. To determine hepatic protein and bile metabolite concentrations on board.
5. To sample *Buccinum* for imposex measurements in support of TBT effects survey.
6. To sample fish and sediment from the Clyde and Solway Firth CSEMP stations.
7. To obtain epibenthos samples from off Lybster in support of a project to investigate

effects of drilling mud components on various invertebrates, mainly molluscs.

8. To sample 100 0-Group (<15 cm) cod, haddock or whiting from North Minch.

Estimated Days per Project: 17 days 10124 (AE11p)

Procedure

Loading of scientific gear will take place on 26 October. Thereafter, the prevailing weather forecast will determine whether *Clupea* will transit to the west coast earlier than scheduled or will start work on the published start date for the survey.

During the course of this survey, fish and sediments, from the trawl track, will be sampled from

Upper Firth of Forth, Blackness (flounder only)

St Andrews Bay (flounder only)

Broad Bay (plaice)

Colonsay (plaice)

Outer Clyde, Pladda (plaice); 5 random fixed sediment sites for chemistry and benthos

Inner Clyde, Garroch Head, Irvine Bay, Hunterston, Skelmorlie and Cloch Point (plaice)

Upper Clyde, Bowling (flounder only), to be sampled by SEPA and transferred to *Clupea*

Solway Firth (plaice); 5 random fixed sediment sites for chemistry and benthos

In addition to the above, on the east coast, off Lybster, Moray Firth, epibenthos will be sampled by Agassiz trawl in support of a project to investigate effects of drilling mud components on various invertebrates, mainly molluscs.

In the Minches 0-Group (<15 cm) cod, haddock or whiting will be sampled, as 100 from each species from any one area (stat square) in bags of 20 fish.

Maia Strachan will join *Clupea* on the first or second part of this cruise during dates to be confirmed nearer the time of sailing.

Lynette Richie will join *Clupea* for the Clyde element of this survey during dates to be confirmed nearer the time of sailing.

Rest Day Provision

Rest day provision for this cruise will be provided by a half-landing, at some convenient time and place to be decided during the cruise.

General Arrangements

Liquid nitrogen and other chemicals will be carried abroad for the preservation and storage of biological material.

Normal contacts will be maintained with the Laboratory.

J A Morrison
3 October 2007

1507C proposed sampling sites

