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FRV *Alba na Mara*

Survey 0112A

PROGRAMME

5-19 January 2012

Ports

Loading: Fraserburgh, 19 December 2011

Sailing: Fraserburgh, 5 January 2012

Unloading: Fraserburgh, 19 January 2012

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 Marine Scotland's Working Time Policy (Lab Notice 34/03).

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 I Gibb and the Cruise Summary Report (old ROSCOP form) to M Geldart, within four weeks of a cruise ending. In the case of the Cruise Summary Report a nil return is required, if appropriate.

Personnel

A Weetman SIC

C Shand

C Hepple

Gear

TV drop frame

TV sledge

600m umbilical towing cable and cameras (plus backup)

Konesberg digital stills camera

Four lasers and bracket fro the drop frame

BT201 prawn trawl

Day grab and table

Estimated Days per Project: 15 Days SU02NS/10906

Objectives

- To obtain estimates of the *Nephrops* habitat distribution in West Coast Sea lochs, using sediment grabs and underwater cameras.
- To obtain estimates of the distribution and abundance of *Nephrops* within these lochs using underwater video cameras.

- To compare two different methodologies to establish *Nephrops* burrow abundance.
- To use the video footage to record occurrence of other benthic fauna and evidence of commercial trawling activity.
- To collect trawl caught samples of *Nephrops* for comparison of reproductive condition and morphometrics.
- To collect the samples of *Nephrops* stomachs for evidence of the parasite *Stichocotyle nephropis*.

Procedure

This survey continues on from the work carried out in February 2010 (0110A) and January 2011 (0111A).

For each area within the survey, a position outwith the suspected *Nephrops* habitat boundary will be nominated as the start point for a search path across the length or breadth of the area, which will typically be a loch, bay or sound. Along this search path the drop frame will be deployed to provide a visual record of the seabed type. A Day grab will be deployed at a suitable point along the track and on recovery the sediment sample will be frozen.

The distance between and duration of each of these deployments will vary at each area surveyed.

The search path will continue in one direction until the presence or absence of muddy sediment becomes apparent. All significant observations will be recorded on DVD as well as manually. These observations will include the muddy sediment boundary, the point where *Nephrops* burrows begin to appear and any signs of fishing activity.

Once an area has been surveyed to establish the extent of the muddy habitat, depending on time and weather a selection of stations will also be surveyed for *Nephrops* abundance, whereby the drop frame will be deployed over known *Nephrops* grounds for 10 minutes and the number of *Nephrops* burrow complexes will be recorded. The number of TV stations to be completed will be determined by the extent of the muddy grounds and available time. Due to the high probability of creels present in the proposed survey areas the drop frame is more appropriate.

The latitude and longitude of the proposed start points for each survey area will be made available to the ship's complement prior to the cruise.

Weather permitting, the areas in order of priority to be covered in this survey are: Loch Hourn, Loch Nevis, Sound of Arisaig, Loch Sunnart and Sound of Sleat.

As well as using the drop frame to establish habitat boundaries using the video camera, the frame will be fitted with lasers to define the field of view in which abundance observations can be made. This is a new approach, which will be used in future to provide burrow abundance data in areas where the sledge cannot be deployed, and requires to be calibrated against the more standard methodology using the sledge. To facilitate this, time will be set aside (~ 1 day) to carry out multiple abundance runs with the sledge and then the drop frame over the same grounds early in the survey. Details of the exact experiment design and location will be issued prior to the survey commencing.

It is hoped that at least two trawls can be carried out to the North of Rona, each one hour long; one within the trawl only area and one outwith this area. A range of biological and morphometric data will be collected on the catch of *Nephrops*. Up to 1000 *Nephrops* stomachs will be collected and preserved in ethanol and returned to Marine Scotland Science for analysis after the survey.

General

TV work will take place during daylight hours. There will be a requirement for some trawling to take place in the evening. On days where trawling will take place, work patterns will be arranged so as not to exceed WTD recommendations.

Normal contacts will be maintained with the laboratory.

Submitted:
A Weetman
16 November 2011

Approved:
I Gibb
15 December 2011