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MRV *Alba na Mara*

Survey 0319A

PROGRAMME

8-21 March 2019

Ports
Loading: Fraserburgh, 06 March 2019
Sailing: Fraserburgh, 08 March 2019
Unloading: Fraserburgh, 21 March 2019

In setting the survey 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 survey with staff on-board before work is commenced.

In the interest of efficient data management it is now mandatory to return the Survey Report, to I Gibb and the Survey Summary Report (old ROSCOP form) to M Geldart, within four weeks of a survey ending. In the case of the Survey Summary Report a nil return is required, if appropriate.

Costs to Project: 20491 (C80320) - 14 days.

Equipment:

BT 201 Prawn net - rigged with separator grid and two 80mm codends
Trawl doors**,** sweeps, bridles, backstrops and pennants
Spare netting and twine
Safety-Net Technologies light units (blue & green lights)
PSL5000 light unit x 2
Lindgren Pitman Electralume light x10
7 x 15m side emitting light cables
Battery pods
Video Cameras
Flashback recorders and housing
Pyramid camera frames
Scanmar units – wing

Objectives

- Investigate whether light influences fish behaviour in the extension of the trawl.
- Obtain video footage of the separator lighting grid.

Procedure

Equipment will be loaded onto MRV *Alba na Mara* at Fraserburgh on 6 March 2019, where the trawl will be rigged onto the net drum. Scientific staff will join the vessel at 0830 on 8 March and sail after all drills and familiarisations have been completed. The vessel will steam,

weather permitting, to fishing grounds in the Moray Firth or alternatively the Dog Hole approximately 9 nm east of Aberdeen. A number of short hauls will be carried out to ensure the separator grid in the trawl is rigged correctly through observations with video cameras mounted on the trawl. After the rigging trials are complete, fish behaviour trials will commence. The intention is for *Alba* to work daily from Fraserburgh harbour but may need to change fishing grounds if fish species composition and size is not suitable. A staff change will be made in Fraserburgh on the evening 15 March. *Alba* will return to Fraserburgh on the evening of 20 March to unload equipment and scientific personnel on the 21 March.

Fish Behaviour Trials

The BT201 prawn trawl is fitted with a panel of netting that diverts all the fish into the upper half of the extension and then runs between the selvedges to the separate 80 mm codends. Fish can pass through a grid mounted in the central panel, to be retained in the lower codend (Figure 1). There will be two light fibre lines permanently attached to the grid, one illuminating the upper half and one illuminating the lower half of the grid. The guiding panel at the front of the separator section can be re-rigged to close off either the top or lower tunnels. An LED light unit and 12V battery pack that illuminates the fibre lines will be mounted on the port selvedge behind the grid. The LED light unit will emit green or blue light and hauls will be conducted with either light at high or low intensity. The grid will also be fished periodically without any lights to show the standard reaction to the grid. Hence five lighting variables will be tested during the trials (green High, green low, blue high, blue low and no light).

The light units and grid cannot be wound onto the net drum as it could damage the equipment. During hauling the net will be wound onto the drum up to the grid, then the power block used to bring the codends aboard. Large bins will be used on deck to receive and store the catch from the separate codends. The catch will be sorted into key species, weighed and individual total length measurements recorded.

The vessel 12 hour period of operation will provisionally be 07:00 to 19:00 hours for the behaviour trials, so that all hauls will be conducted in daylight. Around four fishing hauls will be carried out each day, with the last haul being heaved up at 1700-1730 hours. Hauls will be between 60 and 90 minutes long initially, with the potential to be adjusted depending on the catch volume. The net will be towed at three knots with a set of Scanmar distance units used to monitor wing spread during each haul.

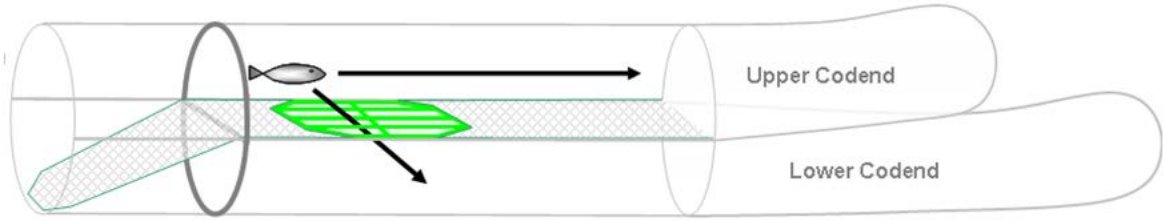

Figure 1: The netting panel separator and grid arrangement with the light fibre
Normal contacts will be maintained with the laboratory.

Submitted:
R Kynoch
18 January 2019

Approved:
I Gibb
27 February 2019