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MRV *Scotia*

Survey 11-1213S

PROGRAMME

9 –30 September 2013

Ports

Loading: Aberdeen, 6 September 2013
Half-landing: Ullapool, around 18 September 2013
Unloading: Aberdeen, 30 September 2013

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.

Part 1: Rockall Haddock Survey

Personnel

J Drewery (In Charge)
R Kynoch (Deck)
F Burns
F Neat
M Gault
J Dooley
M Stewart
N Collie
F McIntyre
J Rasmussen
V Khlivnoy (Visitor – PINRO, Russia)

Part 2: Deepwater Slope Survey

Personnel:

F Burns(In Charge)
A Kynoch (Deck)
F Neat
J Drewery
T Regnier
M Gault
C Trueman (Visitor – Southampton University)
M Chung (Visitor – Southampton University)
A Addison (Visitor - SFF)

Estimated Days per Project: 22 days – SU02ND

Fishing Gear

GOV Trawl (BT 137) with ground gear D (Pt 1)
BT 184 Deepwater trawl with 16 " ground-gear and Morgere 1700 kg doors (monkfish)(Pt 2)

Other Gear

CTD – Seabird 19+ (Pt 1)
VMUX towed TV chariot (Pt 1)
Groundgear Bosom bag (Pt 2)

Objectives Part 1

- To undertake the bottom trawl survey of haddock on the Rockall Plateau to depths of 350 m.
- To deploy a CTD at selected trawl stations to collect temperature and salinity profiles.
- To collect samples (genetics and otoliths) for key species for population studies, contaminant studies and other requests, e.g. MSFD litter recording.
- To collect stomachs of Grey Gurnard to inspect for the presence of juvenile haddock.
- To map seabed habitats and coral reefs using towed VMUX chariot video system.

Objectives Part 2

- To map the composition, distribution and abundance of continental slope species including invertebrates on the deepwater slope west of the Hebrides and Rosemary Bank to depths of 2000 m.
- To collect temperature at depth during all deepwater hauls using a data storage sensor attached to the trawl headline.
- To collect samples (genetics and otoliths) for key species for population studies and undertake any other sampling requests, e.g. MSFD litter recording.
- Continued use of groundgear bag on selected stations to further evaluate gear catchability of deepwater fish species at different depths as well as providing valuable benthic data.

Procedures Part 1

The primary objective of this part of the survey is to assess the state of the haddock stock on the Rockall Plateau. The Rockall haddock surveys employs a semi random stratified survey design comprising 4 sampling strata separated according to depth (see figure 1). Sampling intensity within each of the four strata reflects the fish density observed in each of the strata using haddock abundance data from previous surveys. Trawling will be carried out during the hours of daylight at randomly selected locations within the 350 metre contour. Thirty six

tow positions have been generated and their allocation within each depth stratum is displayed in figure 1. The number of stations within each depth strata is as follows:
4 stations at 0 – 150m, 18 stations at 150 – 200m, 10 stations at 200 – 250m and 4 stations at 250 – 350m. One haul of 30 minutes duration will be made at each sampling station. Daily start times for survey stations will be at approximately 06:00h and continue until approximately 20:00h. The Scanmar system will be used to monitor wing spread, door spread and distance covered during each haul. A bottom contact sensor will be mounted on the footrope to record the distance of the trawl off the seabed. Catches will be worked up according to the protocols for International Bottom Trawl Surveys and all hauls will be processed and the data entered using the newly acquired EDC (Electronic Data Capture) and FSS (Fishing Survey System). A CTD will be deployed at selected trawl stations.

At night the VMUX towed video chariot will be deployed in and outside areas closed for the protection of coldwater coral reefs and in areas of interest identified within the 12 mile limit of the islet of Rockall. In the case of weather conditions curtailing deployment of the VMUX, the swathe MBES will be considered as an option for opportunistic mapping of the seabed building on previous swathe mapping of the area. Upon completion of the Rockall haddock survey, passage will be made to Ullapool for half-landing on or around 18 September. The GOV net and associated gear will be stripped down and offloaded together with TV kit at Ullapool in exchange for the deepwater trawl gear.

Procedures Part 2

The deepwater slope survey will commence 24 hours after coming into Ullapool and proceed south trawling the shelf slope between 500-1800 m. The primary objective is to map the composition, distribution and abundance of fish species on the deepwater slope west of the Hebrides (see figure 2). Trawling will mainly be at fixed stations at 500, 750, 1000, 1500 and 1800 m. During the 2012 survey 3 additional hauls were completed in 2000m in squares 43D9, 44D9 and also 45D9. For 2013 the intention would be to try and repeat these and addition be able to expand the number of tows at a similar depth in some of the more southerly transects though the feasibility of this will be discussed further with the bridge officers during the survey. In 2012 an intensive transect of hauls were successfully completed in square 44D9 that involved deploying the trawl at 100m depth intervals right down the continental slope to 2000m. In 2013 the intention is to try and repeat the process but on one of the more southerly transects. Once again the details and feasibility of this can be discussed with the bridge officers during the survey. Trawl duration will be 1 hour. The exact locations of the trawling stations will be notified to the vessel at the commencement of the survey. No CTD deployments will be made. If time permits trawl stations on Rosemary bank will be conducted as has been done in previous years. The schedule has been set under the WTD and the expectation is that trawling will be conducted within the hours of daylight. It may be necessary to trawl at night if daylight fishing time is lost due to poor weather or other problems, but the night-time will mainly be spent in passage from one sampling area to the next. From all tows the entire catch will be sorted, weighed and length-frequency data collected. Benthic invertebrate by-catch will also be recorded. A ground gear bag will be attached on certain tows for sampling of benthos. Additional sampling to be carried out as outlined in the objectives. Once again all hauls will be processed and the data entered using the newly acquired EDC (Electronic Data Capture) and FSS (Fishing Survey System).

Scotia will return to Aberdeen for the morning of 30 September.

Normal contacts will be maintained with the Laboratory.

Submitted:
J Drewery & F Burns
23 August 2013.

Approved:
I Gibb
30 August 2013

Figure 1. Survey map with stations of Rockall bank – 1113S Sampled strata are those ranging from 0 – 350m depth. Red boxes represent restricted / closed areas.

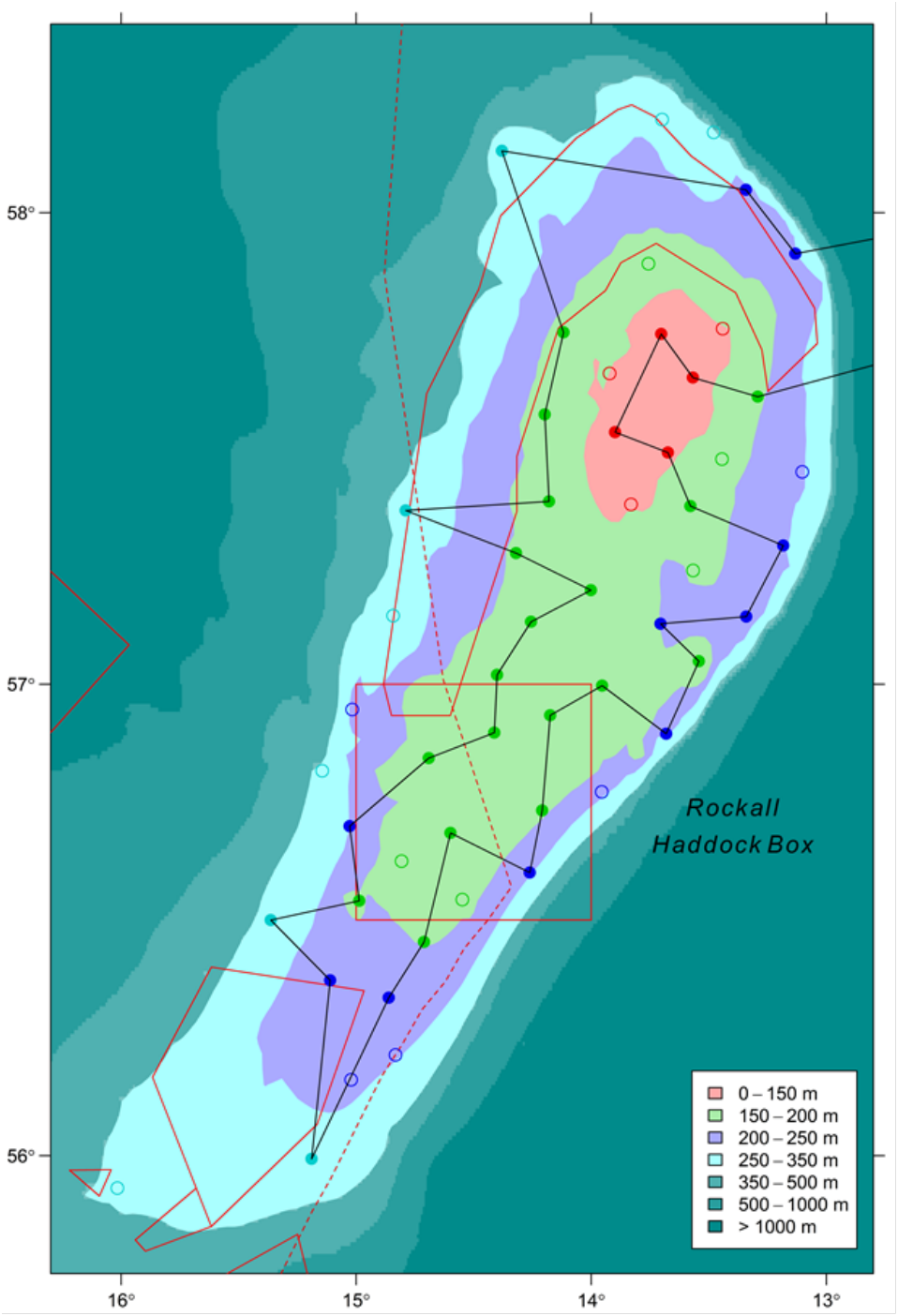

Figure 2. Shelf slope with core stations – 1213S.