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MRV Scotia

Survey 1118S

## **PROGRAMME**

28 July - 17 August 2018

### **Ports**

**Loading:** Aberdeen, 25 July 2018

**Departure:** Aberdeen, 28 July 2018

**Half Landing:** Aberdeen, ~8 August 2018 (flexible)

**Unloading:** Aberdeen, 17 August 2018

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 Iain Gibb and the Survey Summary Report (old ROSCOP form) to Matt Geldart, within four weeks of a survey ending. In the case of the Survey Summary Report a nil return is required, if appropriate.

### **Personnel**

R Gillespie-Mules	(SIC)
M Kinghorn	(Deck)
G McAllister	
H Holah	
L Clayton	(Part 1)
C Altass	(Part 1)
F Armstrong	(Part 2)
C Pert	(Part 2)
J Wouters	(Visitor)
A Moutaftsi	(Visitor – AU)
M Smart	(Visitor – NOC)
T West	(Part 1 – SFF)
W Spence	(Part 2 – SFF)
I Idongesit (TBC)	(Visitor – AU)

**Estimated Days Per Project:** 21 days – RV1810

**Fishing Gear:** GOV Trawl (BT 137) with Ground Gear A & B

### **Objectives**

1. To complete an internationally coordinated demersal trawling survey in the North Sea in ICES area IV.

2. To obtain temperature and salinity data from the surface and seabed at each trawling station using a SEABIRD 19+CTD.
3. To collect additional biological data in connection with the EU Data Collection Framework (DCF).
4. Opportunistic completion of zero hours hauls to assess unquantified time spent by the trawl on the seabed.
5. Deployment of 3 AUV gliders as part of the AlterEco project.

## **Procedures**

### **General**

Loading of all trawl gear will take place on 25 July 2018 with rigging and testing being completed on the same day. Loading of the scientific gear will also take place on the same day. *Scotia* will sail on the morning of 28 July 2018. Once safety drills have been completed, *Scotia* will proceed to the first station northeast of Peterhead at the Buchan Deep (North of 57° 30'N), where a shakedown haul will be completed in order to check the net configuration and the SCANMAR units. An operational daily survey plan will be formulated by the SIC subsequent to meetings with both the Fishing Master and Captain.

### **Trawling**

There are 73 programmed rectangles to be surveyed and these are presented on the attached chart (Figure 1.). Trawling will be undertaken during the hours of daylight which will vary depending on the vessels latitude at any given time. Towing time at each station is 30 minutes as standard. Due to the discussion at IBTSWG 2017 regarding the potential inter-vessel variability in unquantified trawl time, additional information on trawl deployment and retrieval will be recorded to better understand variability and provide an accurate estimation of the total time required for each vessel to successfully complete a 30 minute tow. Further to this and if time permits, *Scotia* will also undertake several 15 minute trawls followed by zero-hour trawls, defined as when the trawl is hauled as soon as the nominal haul duration would have started in an ordinary research haul. Zero-hour deployments will be completed in sets of three along a single extended trawl track and at a range of depths.

The GOV survey trawl will be used solely with the 47 m (short) sweeps throughout the survey. Two ground gear types will be used during the survey, the lighter "A" rig being used on all stations south of 57°30' N and the heavier "B" rig being used north of 57°30' N.

The SCANMAR system will be used to monitor the headline height, wing spread and door spread for each haul. Bottom contact data from each haul will also be collected using the NOAA bottom contact sensor which will be mounted in the centre of the ground gear.

In addition to the routine sampling utilising the EDC system, biological data will be collected for target species in line with the EU data regulation. All fish will be processed in accordance with Standing Instructions.

### **Hydrography**

CTD casts will be taken at every trawl station. These provide surface and bottom temperature and salinity information. Reverser bottles affixed to the CTD wire will also be used to collect water samples that will be analysed back at lab to provide information on salinities, nitrates, silicates and phosphates.

In addition, 17 (20 litre) carboys will be filled with sea water, according to the Water Collection SOP (0805 – Section 8.3.1) for the Chemistry department at the lab to use for nutrient analysis.

The thermosalinograph will be run continuously throughout the survey.

### **AlterEco Gliders**

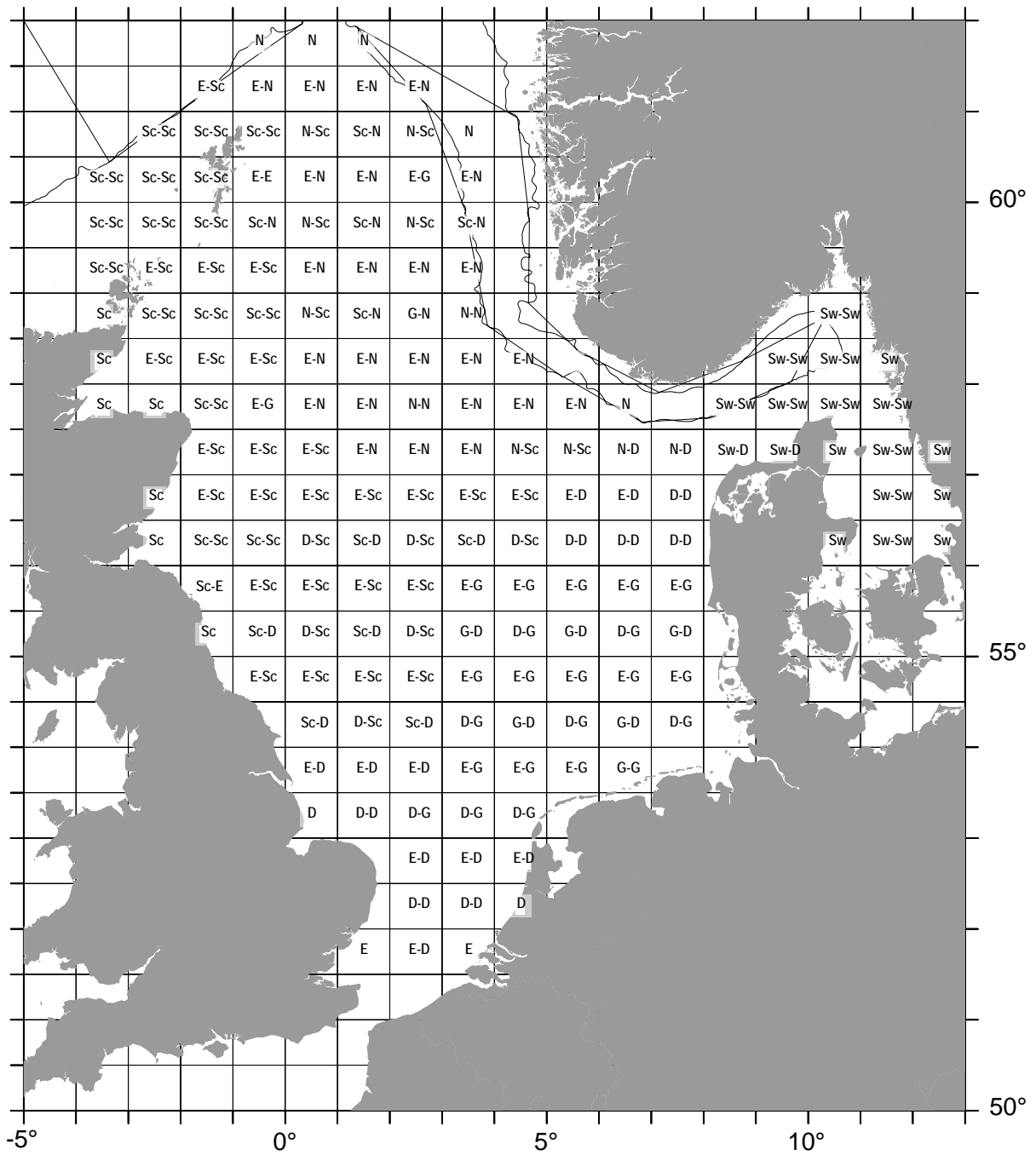
In collaboration with the National Oceanographic Centre, Liverpool, we will aim to deploy one AUV glider at the most northern point of the survey in 51E8 and two further gliders around 56°00'N, 02°00'E

All staff and equipment will be unloaded on the morning 17 August 2018.

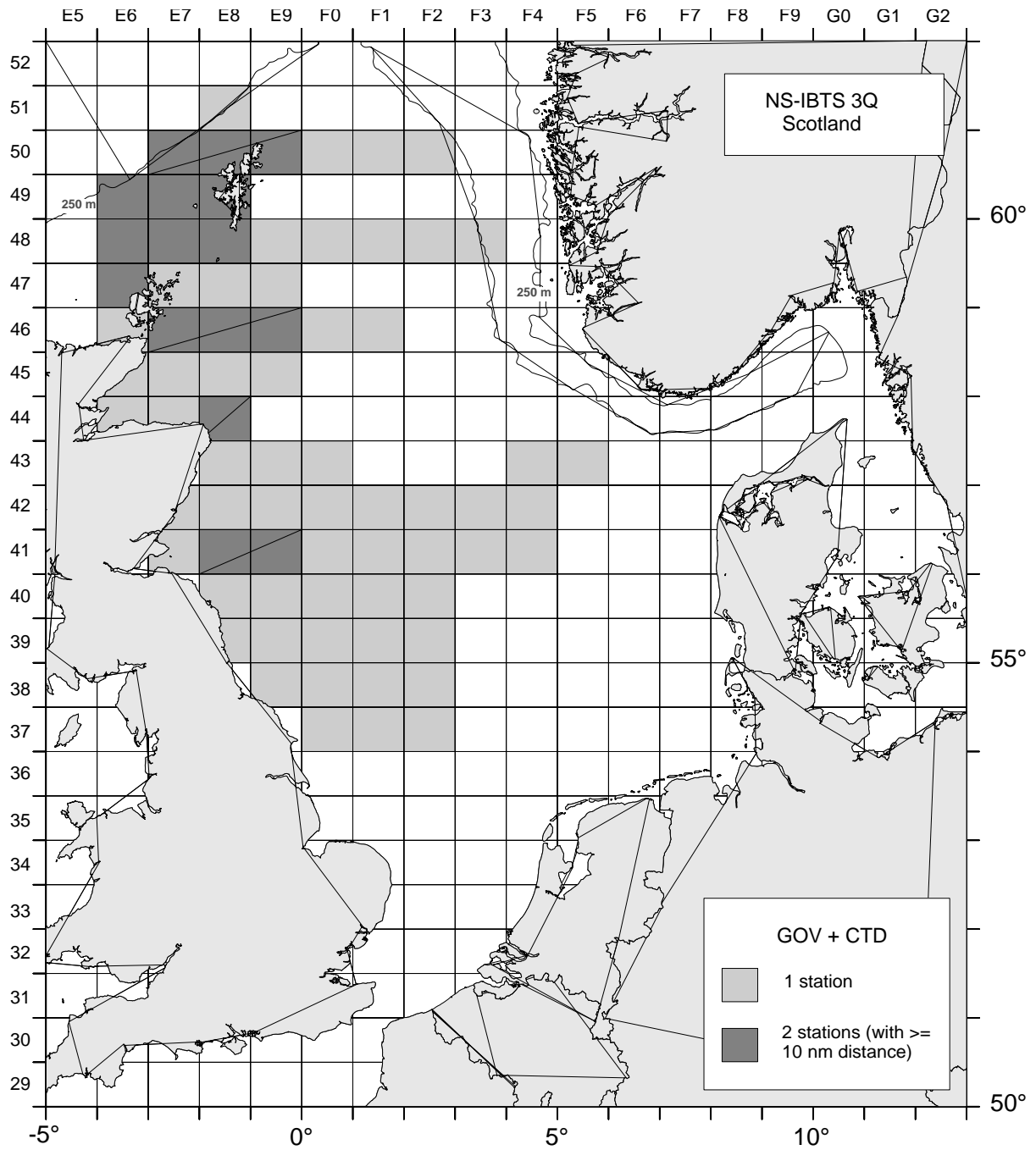
Normal contacts will be maintained with the Laboratory.

Submitted:  
R Gillespie-Mules  
16 July 2018

Approved:  
I Gibb  
20 July 2018



**Figure. 1:** 2018 IBTS Quarter 3 Proposed Survey Grid all participants (D: Denmark, E: England, G: Germany, N: Norway, Sc: Scotland, Sw: Sweden).



**Figure 2:** 2018 IBTS Quarter 3 Proposed Survey Grid – Scotland.