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MRV Scotia

Survey 1119S

## **PROGRAMME**

3-23 August 2019

### **Ports**

**Loading:** Aberdeen, 31 July 2019

**Departure:** Aberdeen, 03 August 2019

**Half Landing:** Aberdeen ~14 August 2019 (flexible)

**Unloading:** Aberdeen, 23 August 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 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.

**Project:** 21 days – RV1913/20538

### **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 trawls deeper than the 250 m area limit to assess stocks outside of survey and index area.
5. Collect and quantify all marine litter encountered on the survey.
6. Collect Dissolved Oxygen measurements from bottom and top water samples at 50 stations throughout the survey.

## **Procedures**

### **General**

Loading of all scientific and trawl gear will take place on 31 July 2019, with rigging and testing being completed on the same day. *Scotia* will sail on the morning of 3 August 2019. Once safety drills have been completed, *Scotia* will proceed to the first station southwest of Aberdeen (Montrose Bank), 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 in conjunction with both the Fishing Master and Captain.

### **Trawling**

There are 74 programmed rectangles to be surveyed and these are presented on the attached charts (Figure 1 and 2). Trawling will be undertaken during the hours of daylight which will vary depending on the vessels latitude at any given time. Standard towing time at each station is 30 minutes. *Scotia* will intend to complete the southern part of the survey first with the intention of completing the programmed rectangles northwest of Shetland last. This will allow, if time permits, to conduct opportunistic trawls outside of the index area of the commercial species of interest, in water deeper than the survey limit of 250 m.

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, depth, 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 temperature and salinity profiles of the water column. A Niskin bottle affixed to the CTD wire will also be used to collect water samples that will be used to calibrate the CTD. In addition, data on dissolved oxygen and chlorophyll will be collected at 50 stations throughout the survey area. Analysis will follow the M 0820 Dissolved Oxygen Analysis SOP.

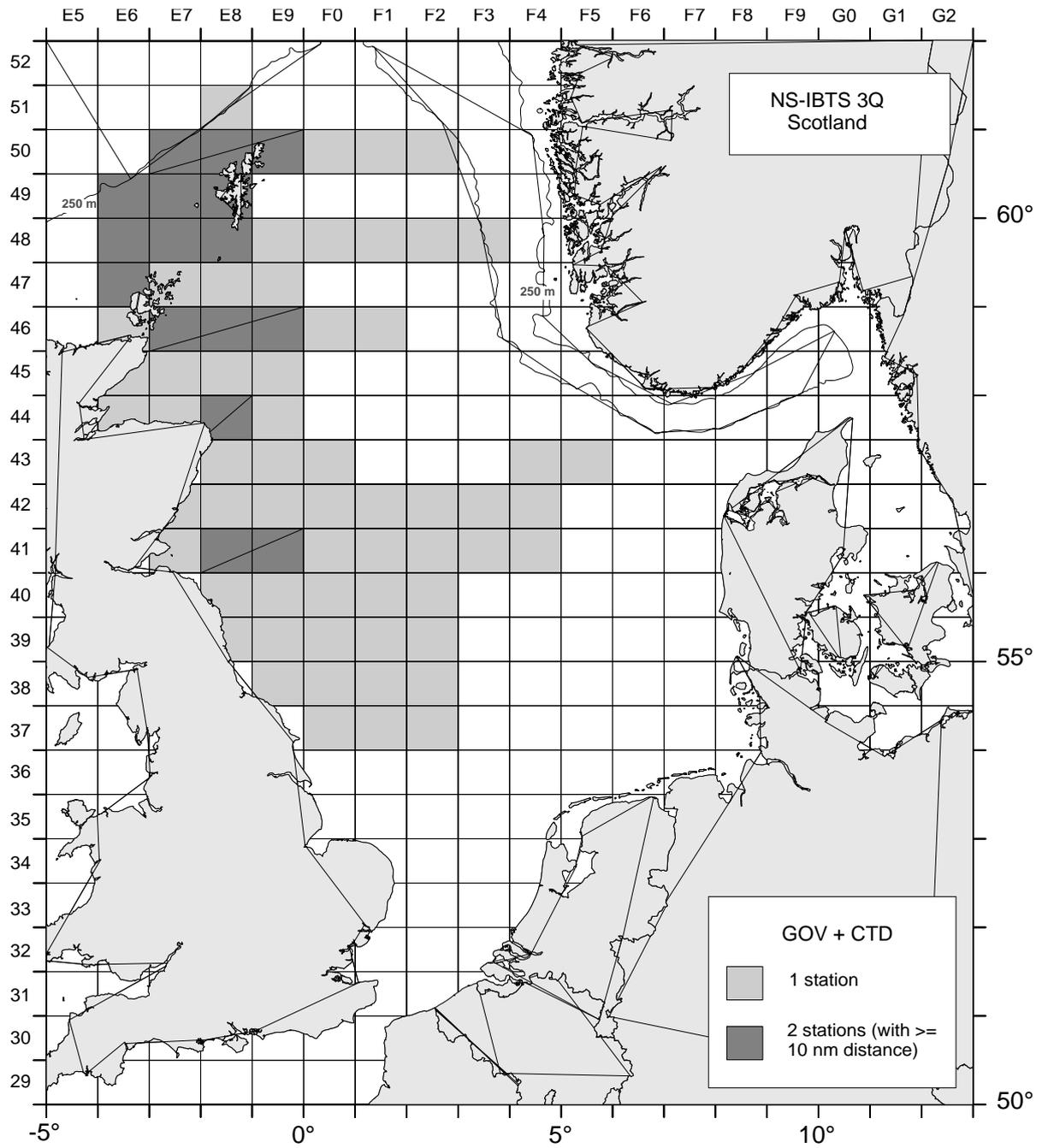
A number of 20 litre carboys will be filled with sea water, according to the Water Collection SOP (0805 – Section 8.3.1) for the MSS Chemistry group to use for nutrient analysis.

Normal contacts will be maintained with the Laboratory.

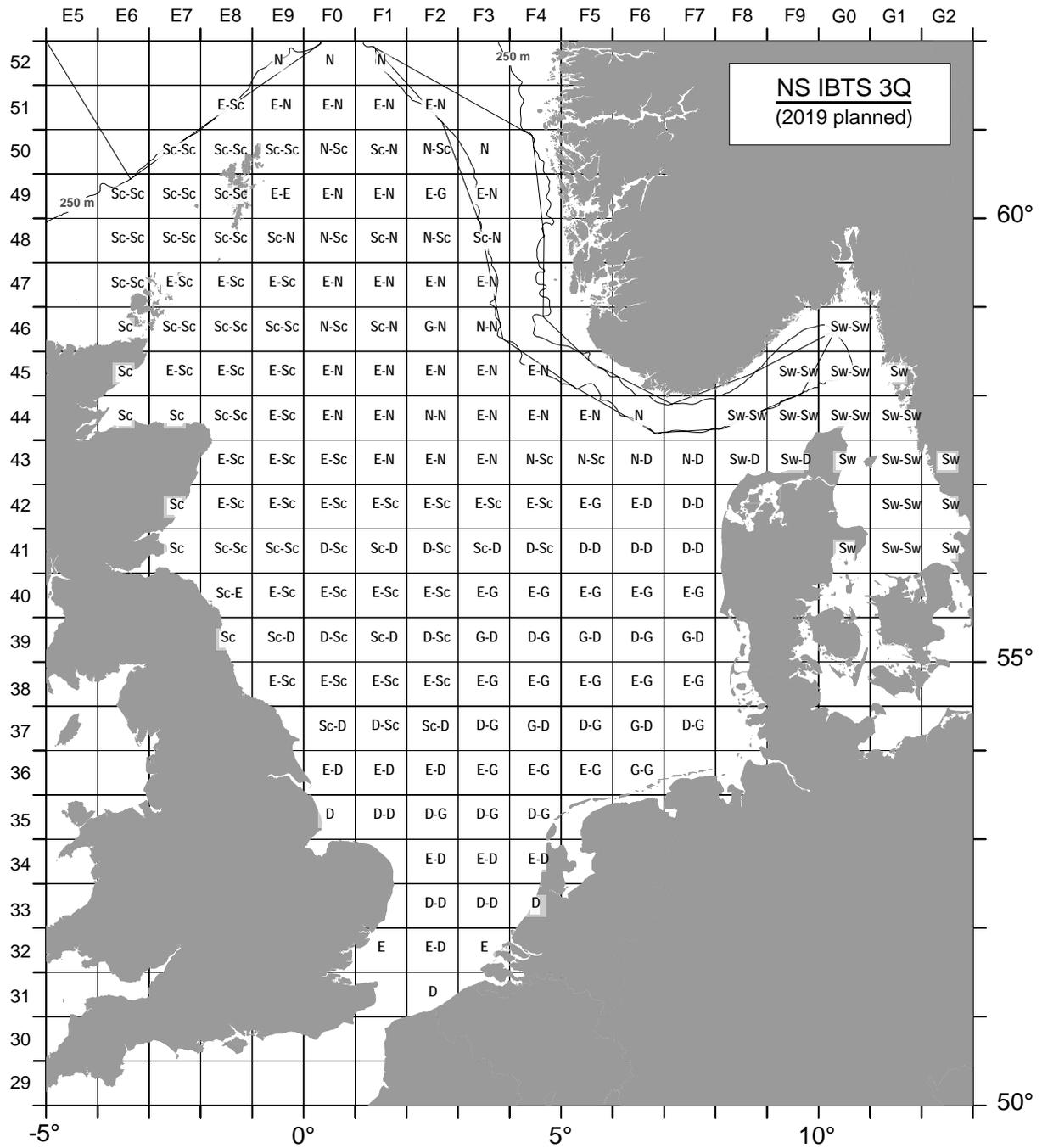
All staff and equipment will be unloaded on the morning of the 23 August 2019.

Submitted:  
R Gillespie-Mules  
22 July 2019

Approved:  
I Gibb  
22 July 2019



**Figure 1:** 2019 IBTS Quarter 3 Proposed Survey Grid – Scotland.



**Figure 2:** 2019 IBTS Quarter 3 Proposed Survey Grid - All Participants (D: Denmark, E: England, G: Germany, N: Norway, Sc: Scotland, Sw: Sweden).