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FRV *Scotia*

Cruise 0809S

## **PROGRAMME**

5 – 24 June 2009

**Loading:** Aberdeen 2 June 2009

**Sailing:** Aberdeen 5 June 2009

**Half landing:** Greenock (TBC)

**Unloading:** Aberdeen 24 June 2009

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 D Lichtman, 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 (In Charge)

C Shand

A Tait

G Jones

L Allan

C Mesquita (Part 1)

H Drewery (Part 1)

A McLay (Part 2)

N Campbell (Part 2)

M Robertson (4 Days, Part 2)

P Copland (4 Days, Part 2)

**Estimated days by project:** 8 days RV0904 10665 (North Sea)  
12 days RV0905 10666 (West Coast)

## **Gear**

2 x Scotia BT175 60mm prawn trawls

Day grab and table

Towed UWTV sledge and UWTV drop frame

2 x 600m umbilical towing cables and associated TV equipment (including back up)

2 x Box corers

7 Sample collectors for box corer, 4 wooden supporting pallets for sample collectors and 2 pallet trucks

## Objectives

1. To obtain estimates of the abundance and distribution of *Nephrops* burrows in the Fladen Ground, The North Minch, the South Minch, in the Firth of Clyde and at Devil's Hole. If time permits stations in the Sound of Jura and at the Noup will also be surveyed.
2. To use the TV footage to record occurrence of other benthic fauna and evidence of commercial trawling activity.
3. To collect sediment samples at each station.
4. To carry out trawling for *Nephrops*, based on one haul in each sediment stratum in each of the main survey areas, and to obtain samples of *Nephrops* for size composition analysis.
5. To collect samples of *Nephrops* for comparison of reproductive condition and morphometrics in each of the different survey areas (functional units)
6. To deploy the box corer sediment sampler in the Clyde on several occasions, and to resin cast burrows found within the samples.
7. To carry out trials on the new swathe system whilst in the Clyde.
8. To collect EK60 Roxann data throughout the cruise.

## Procedures

The main areas in which the survey will take place, which are known as functional units, have been surveyed before and are shown in Figure 1. A combination of two approaches will be used to derive the survey positions. The stations will be generated by employing the traditional stratified random technique, and also using commercial effort based data obtained from the Vessel Monitoring System. All TV station positional data will be provided ahead of the cruise. It is planned that the vessel will first steam to the deep water in the Southern Trench (in the East of the Moray Firth) to deploy the sledge and the majority of the cable before recovering the sledge under tension, then progress on to the first of the *Nephrops* burrow TV stations at the SW edge of the Fladen ground. Once Fladen has been completed, the vessel will then steam around to the west coast and survey stations in the North and South Minch and the west of the Firth of Clyde before calling into Greenock for the half landing.

At this time, there will be a scientific staff change, as well as M Robertson and P Copland joining the vessel for the remainder of the time in the Clyde. Whilst in the Clyde the new swathe system will be trialled, which should have no impact on the TV operations. In addition, sediment sampling using the box corer will also be undertaken. The number and frequency of cores taken will be dependant on weather, time and method development/progress. Once the sample box containing the sediment has been removed from the corer, a resin based liquid will be poured into burrows found within the sample, and the sample box left in the open air until the resin sets. All required risk assessments and COSHH data sheets will be provided ahead of the cruise. Once TV work and trawling in the Clyde has been completed, the box corer and swathe work will cease. Also at this time, M Robertson and P

Copland will require to be returned to the mainland by small boat before they head back to Aberdeen.

Time permitting, stations in the sound of Jura, the Noup and additional stations at Fladen will be surveyed on the return leg of the journey

TV observations will be made throughout each 24hr period by three teams working 8 hour shifts. At each station a video camera mounted on the sledge will be towed along the seabed for approximately 10 minutes – dynamic positioning control will be required for this. Records of *Nephrops* burrows, *Nephrops* and other benthic fauna will be recorded onto DVD for further analysis. The distance travelled by the sledge, depth and camera height will also be recorded. Where practical sediment samples will be taken using the mini Van Veen grab mounted on the sledge. It may be necessary to use the Day Grab on occasion, if the Van Veen fails.

Trawl caught samples of *Nephrops* will be collected and data on size composition, maturity and morphometrics will be recorded. Up to four trawls will be made in each of the main grounds (functional units) surveyed.

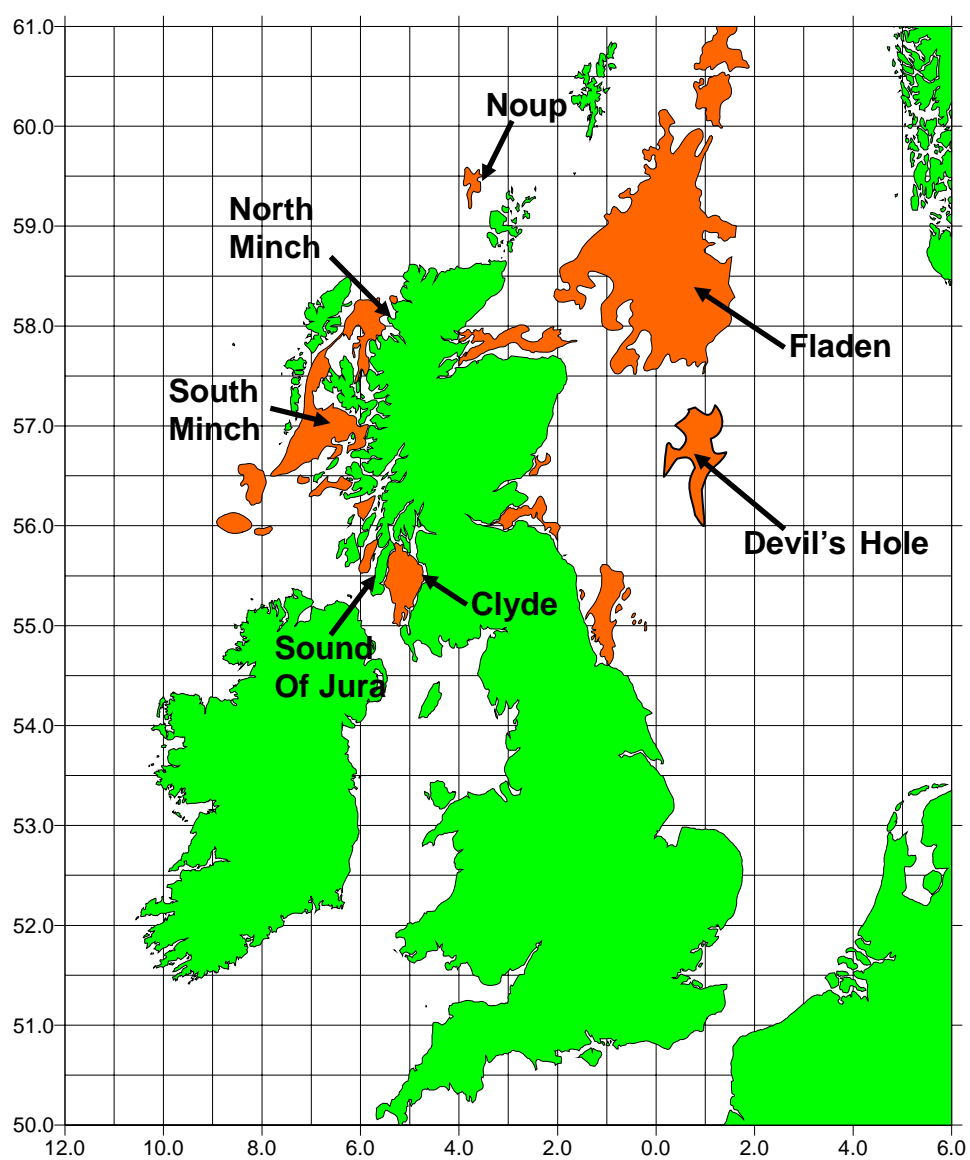
Throughout the survey, where practical the EK60 Roxann system will be required to record seabed data.

Normal contacts will be maintained with the Laboratory.

Submitted:  
A Weetman  
6 May 2009.

Approved:  
I Gibb  
15 May 2009.

## Survey areas for Scotia 0809S



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Not to be cited without prior reference to Marine Scotland, Marine Laboratory, Aberdeen.

FRV *Scotia*

Cruise 0809S

6 June – 24 June 2009

### **PROGRAMME AMENDMENT**

The following personnel changes will take place;

G Jones will no longer sail on the cruise

C Mesquita and N Campbell will both sail for the complete cruise

E Heywood (SAMS) will join for Part 2

*J W Hepburn*

2 June 2009