

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

MRV *Scotia*

Survey 1417S

## **PROGRAMME**

6-16 October 2017

**Loading:** Aberdeen, 28 September 2017

**Unloading:** Aberdeen, 16 October 2017

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 (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

### **Personnel**

R O'Hara Murray (SIC)  
B Rabe  
L Campbell  
M Geldart  
D Lee  
P Diaz  
A Mohd Fahmi (Visitor Heriot-Watt University (HWU))  
C Nikolova (Visitor Heriot-Watt University (HWU))  
J Opher (Visitor Univerisy of East Anglia (UEA))

**Out-turn days per project:** 11 days: ST05B

### **Gear**

Sea-Bird CTDs, ADCP instrumentation and AL-200 frame, water filtering equipment, bacteria sampling and experimental equipment, including bacterial culture equipment with CO<sub>2</sub> gas enrichment (HWU), mooring equipment and recovery trawl.

### **Objectives**

1. Test the CTD in the Buchan Deep off Peterhead
2. Perform hydrographic sampling along the JONSIS long term monitoring section in the northern North Sea.
3. Deploy ADCP on JONSIS line in AL-200 frame (AECO).
4. Recover and download the data from a single string ADCP mooring on the Fair Isle – Munken section in the FSC (NWS-E).
5. Re-deploy one ADCP mooring at a position on Fair Isle – Munken section.

6. Take surface water samples near FIM 8 location for phytoplankton and bacterial analysis and experimentation (HWU).
7. Perform hydrographic sampling along the long term monitoring Faroe-Shetland Channel Nolso – Flugga (NOL/NWE) section.
8. Perform hydrographic sampling along the long term monitoring Faroe-Shetland Channel Fair Isle – Munken (NWS) section.
9. Take water samples for long term storage on two Fair Isle – Munken or Nolso – Flugga section stations.
10. Take water samples for bacteria analysis at selected stations on the monitoring lines.
11. Recover one ADCP mooring at a position on Faroe-Shetland Channel Faroe – Cape Wrath (FCW/NWZ) section (NWZ-E).
12. Perform hydrographic sampling in the vicinity of the above ADCP mooring in order to calibrate the mooring equipment.
13. Perform a CTD transect along a Stonehaven AlterEco section (going west from 2° E).

### **Procedure**

On sailing from Aberdeen *Scotia* will carry out test deployments of the CTD and carousel around the Buchan Deep, using the standard deployment procedures (10 m soak); sampling procedures will also be rehearsed at the test station. *Scotia* will then make passage to the start of the JONSIS long term monitoring section to carry out sampling with the CTD and carousel water sampler. On completion of the JONSIS section, passage will be made to the mooring location on the JONSIS line, where the ADCP in the AL-200 will be deployed. On completion, passage will be made to the ADCP mooring site on the Fair Isle - Munken (FIM) section, where the ADCP mooring will be recovered and a CTD profile performed. *Scotia* will then stay on site while the data is downloaded and the mooring refurbished for re-deployment. *Scotia* will then make her way to FIM-08 for water sampling for phytoplankton and bacteria (time permitting) before sailing to the western end of the Nolso – Flugga (NOL) section. Water samples and CTD profiles will be taken along the NOL section. *Scotia* will then proceed to the FIM section to carry out standard CTD and water sampling along that line. Along the standard sections water samples will be taken at a subset of stations for bacterial work by HWU visitors. After the FIM section *Scotia* will sail to the mooring location on the Faroe – Cape Wrath (FCW) line (NWZE) where the mooring will be recovered and CTD profile performed. *Scotia* will then make her way to the eastern end of the Stonehaven CTD line and make her way back west along the line performing CTD profiles.

### **Mooring Positions (Recovery)**

NWSE – 60° 16.99' N 004° 18.03' W (450 m) on FIM  
 NWZE – 59° 54.56' N 006° 10.14' W (775 m) on FCW

### **Mooring Positions (Deployment)**

AECO – 59° 17.00' N 001° 15.00' W (115 m) on JONSIS  
 NWSE – 60° 16.98' N 004° 18.06' W (450 m) on FIM

(NOTE: The survey will take *Scotia* into the Foinaven Development Area. This is now standard practice and normal on-site communications will be established with the Foinaven co-

ordinating officer).

Normal contacts will be maintained with the laboratory.

Submitted:  
R O'Hara Murray  
19 September 2017

Approved:  
I Gibb  
20 September 2017

## JONSIS Line

#	Name	Latitude	Longitude	Depth	Spacing
01	JO 1	59° 17.00' N	02° 14.00' W	75 m	
02	JO 1A	59° 17.00' N	02° 5.00' W	90 m	4.59 nm
03	JO 2	59° 17.00' N	01° 56.00' W	100 m	4.59 nm
04	JO 3	59° 17.00' N	01° 48.00' W	80 m	4.08 nm
05	JO 4	59° 17.00' N	01° 40.00' W	90 m	4.08 nm
06	JO 5	59° 17.00' N	01° 30.00' W	95 m	5.10 nm
07	JO 6	59° 17.00' N	01° 20.00' W	110 m	5.10 nm
08	JO 6A	59° 17.00' N	01° 10.00' W	120 m	5.10 nm
09	JO 7	59° 17.00' N	01° 0.00' W	125 m	5.10 nm
10	JO 8	59° 17.00' N	00° 40.00' W	120 m	10.20 nm
11	JO 9	59° 17.00' N	00° 20.00' W	140 m	10.20 nm
12	JO10	59° 17.00' N	00° 0.00' W	135 m	10.20 nm
Totals				1180 m	68.36 nm

**Fair Isle - Munken** (Amended for presence of Foinaven oil platform\*)

#	Name	Latitude	Longitude	Depth	Spacing
01	FIM-01	60° 10.00' N	03° 44.00' W	150 m	
02	SEFF1	60° 13.00' N	03° 51.50' W	170 m	4.74 nm
03	FIM-02	60° 16.00' N	03° 59.00' W	200 m	4.84 nm
04	SEFF2	60° 18.00' N	04° 04.50' W	330 m	3.36 nm
* 05	<i>FIM-03</i>	<i>60° 20.00' N</i>	<i>04° 10.00' W</i>	<i>390 m</i>	<i>3.03 nm</i>
06	FIM-04	60° 25.00' N	04° 19.00' W	655 m	6.88 nm
07	FIM-05	60° 29.00' N	04° 26.00' W	995 m	5.45 nm
08	FIM-06	60° 35.00' N	04° 45.00' W	1090 m	11.15 nm
09	FIM-6a	60° 38.00' N	04° 54.00' W	1030 m	5.33 nm
10	FIM-07	60° 43.00' N	05° 06.00' W	915 m	7.70 nm
11	FIM-08	60° 47.00' N	05° 16.00' W	830 m	6.34 nm
12	FIM-09	60° 51.00' N	05° 29.00' W	600 m	7.36 nm
13	FARF3	60° 56.70' N	05° 42.80' W	333 m	8.90 nm
14	FIM-10	61° 02.00' N	05° 57.00' W	280 m	8.68 nm
15	FARF2	61° 07.20' N	06° 09.40' W	250 m	7.95 nm
16	FIM-11	61° 12.00' N	06° 22.00' W	240 m	7.67 nm
17	FARF1	61° 16.40' N	06° 37.70' W	100 m	8.80 nm
Totals				8,558 m	108.18 nm

## Nolso-Flugga

#	Name	Latitude	Longitude	Depth	Spacing
01	NOL-01	60° 56.00' N	01° 00.00' W	110 m	
02	SEFN1	60° 58.70' N	01° 17.70' W	125 m	9.00 nm
03	SEFN2	61° 01.40' N	01° 35.40' W	155 m	8.99 nm
04	NOL-02	61° 04.00' N	01° 53.00' W	270 m	8.91 nm
05	SEFN3	61° 06.00' N	02° 01.50' W	440 m	4.57 nm
06	NOL-03	61° 08.00' N	02° 10.00' W	550 m	4.57 nm
07	SEFN4	61° 09.30' N	02° 17.50' W	630 m	3.85 nm
08	NOL-3a	61° 11.00' N	02° 25.00' W	730 m	3.98 nm
09	NOL-04	61° 14.00' N	02° 40.00' W	1080 m	7.82 nm
10	NOL-05	61° 21.00' N	03° 10.00' W	1370 m	16.03 nm
11	NOL-06	61° 28.00' N	03° 42.00' W	1235 m	16.84 nm
12	FARN2	61° 32.00' N	03° 57.00' W	1200 m	8.18 nm
13	NOL-07	61° 35.00' N	04° 15.00' W	990 m	9.08 nm
14	FARN1	61° 38.00' N	04° 33.00' W	530 m	9.07 nm
15	NOL-08	61° 42.00' N	04° 51.00' W	235 m	9.44 nm
16	NOL-09	61° 49.00' N	05° 21.00' W	180 m	15.84 nm
17	NOL-10	61° 54.00' N	05° 45.00' W	290 m	12.37 nm
18	NOL-11	62° 00.00' N	06° 12.00' W	125 m	14.04 nm
Totals				10245 m	162.60 nm

## Stonehaven AlterECO

#	Name	Latitude	Longitude	Depth	Spacing
01	Inner	56° 57.77' N	002° 08.10' W		
02	Outer	56° 57.77' N	002° 06.77' W		0.73 nm
03	Stonehaven_10	56° 57.77' N	002° 00.65' W		3.35 nm
04	Stonehaven_17	56° 57.77' N	001° 50.47' W		5.57 nm
05	Stonehaven_21	56° 57.77' N	001° 43.08' W		4.04 nm
06	AlterEco_01	56° 57.77' N	001° 33.18' W		5.42 nm
07	AlterEco_02	56° 57.77' N	001° 23.28' W		5.42 nm
08	AlterEco_03	56° 57.77' N	001° 13.39' W		5.42 nm
09	AlterEco_04	56° 57.77' N	001° 03.49' W		5.42 nm
10	AlterEco_05	56° 57.77' N	000° 53.59' W		5.42 nm
11	AlterEco_06	56° 57.77' N	000° 43.69' W		5.42 nm
12	AlterEco_07	56° 57.77' N	000° 33.80' W		5.42 nm
13	AlterEco_08	56° 57.77' N	000° 23.90' W		5.42 nm
14	AlterEco_09	56° 57.77' N	000° 14.00' W		5.42 nm
15	AlterEco_10	56° 57.77' N	000° 04.10' W		5.42 nm
16	AlterEco_11	56° 57.77' N	000° 05.79' E		5.42 nm
17	AlterEco_12	56° 57.77' N	000° 15.69' E		5.42 nm
18	AlterEco_13	56° 57.77' N	000° 25.59' E		5.42 nm
19	AlterEco_14	56° 57.77' N	000° 35.49' E		5.42 nm
20	AlterEco_15	56° 57.77' N	000° 45.38' E		5.42 nm
21	AlterEco_16	56° 57.77' N	000° 55.28' E		5.42 nm
22	AlterEco_17	56° 57.77' N	001° 05.18' E		5.42 nm
23	AlterEco_18	56° 57.77' N	001° 15.08' E		5.42 nm
24	AlterEco_19	56° 57.77' N	001° 24.97' E		5.42 nm
25	AlterEco_20	56° 57.77' N	001° 34.87' E		5.42 nm
26	AlterEco_21	56° 57.77' N	001° 44.77' E		5.42 nm
27	AlterEco_22	56° 57.77' N	002° 00.00' E □		8.34 nm