

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

MRV *Scotia*

Survey 0617S

PROGRAMME

21-31 May 2017

Loading: Aberdeen, 17 May

Unloading: Aberdeen, 31 May 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

A Gallego (SIC)
B Rabe
J Hindson
M Geldart
D Lee
A Taylor
L Duran Suja (Visitor Heriot-Watt University (HWU))
A Mohd Fahmi (Visitor Heriot-Watt University (HWU))

Out-turn days per project: 11 days: ST05B

Gear

Sea-Bird CTDs, ADCPs and current meter instrumentation, water filtering equipment, bacteria sampling and experimental equipment, including bacterial culture equipment with CO₂ gas enrichment (HWU), mooring equipment, recovery trawl, Day grabs and sediment sampling/storage equipment.

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. Recover and download the data from the four ADCP moorings deployed on positions adjacent to the Fair Isle – Munken (FIM/NWS) section.
4. Deploy one ADCP mooring at a position on Fair Isle – Munken section.
5. Take surface water samples at FIM 6a location for bacterial analysis and

experimentation (HWU).

6. Perform hydrographic sampling along the long term monitoring Faroe-Shetland Channel Nolso – Flugga (NOL/NWE) section.
7. Deploy two ADCP moorings at positions on Faroe-Shetland Channel Nolso – Flugga section.
8. Take water samples for long term storage on Fair Isle – Munken and Nolso – Flugga section stations.
9. Take water samples for bacteria analysis at selected stations on the monitoring lines.
10. Take sediment samples at or near two Nolso – Flugga section stations.
11. Deploy one ADCP mooring at a position on Faroe-Shetland Channel Faroe – Cape Wrath (FCW/NWZ) section.
12. Perform hydrographic sampling in the vicinity of the above ADCP mooring.
13. Perform hydrographic sampling along the long term monitoring Faroe-Shetland Channel Fair Isle – Munken (NWS) section.

Procedure

On sailing from Aberdeen MRV *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. The vessel 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 start of the ADCP mooring sites on the Fair Isle - Munken (FIM) section, where the ADCP moorings will be recovered. The CTD will be deployed at a subset of the mooring locations, prior to mooring recovery. It is also planned to collect surface water at the FIM 6a station for bacterial work by HWU visitors. The ADCP instrumentation data will be downloaded then instruments and moorings refurbished on route to new deployment positions. The first mooring deployment will be on the FIM section. *Scotia* will then make her way to the eastern start of the Nolso – Flugga (NOL) section for long term monitoring samples and CTD profiles to be taken along the monitoring line. At two relevant locations along NOL, mooring deployments will be carried out. Day grab sampling will also be carried out at two stations on NOL (NOL-6 and NOL-7), if time allows. After the NOL section, *Scotia* will head to the last mooring location on the Faroe – Cape Wrath (NWZ) section for a mooring deployment and hydrographic sampling. On completion of that work and if time allows, *Scotia* will proceed to the FIM section to carry out standard CTD and water sampling along that line, prior to her return to Aberdeen.

Mooring Positions (Recovery)

NWSE – 60° 16.98 N 004° 18.01 W
NWSD – 60° 27.01 N 004° 21.99 W
NWSC – 60° 34.01 N 004° 48.98 W
NWSB – 60° 47.00 N 005° 18.02 W (all on FIM)

Mooring Positions (Deployment)

NWEA – 61° 38.00 N 004° 33.00 W (530 m) on NOL

NWEZ – 61° 9.30 N 002° 17.52 W (620 m) on NOL

NWSE – 60° 16.98 N 004° 18.06 W (450 m) on FIM

NWZE – 59° 54.60 N 006° 10.20 W (775 m) on FCW

(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:

A Gallego

11 May 2017

Approved:

I Gibb

16 May 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