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

MRV *Alba na Mara*

Survey 2214A

PROGRAMME

28 November – 05 December 2014

Ports

Loading: Fraserburgh, 26 November 2014
Sailing: Fraserburgh, 28 November 2014
Unloading: Leith, 5 December 2014

In setting the survey programme and specific objectives, 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

C Robinson	(SIC)
K MacNeish	
K Donald	
S Nowacki	(SEPA; penultimate day of survey only; no cabin required)
M Elliot	(SEPA; penultimate day of survey only; no cabin required)

Estimated Days per Project: 5 days ST03n (OSPAR and MSFD D8); 2 days ST014 (MSFD D10); 1 day SEPA

Sampling gear: BT 158 with 50 mm cod-end
2 m beam trawl with 50 mm cod-end
Day grab and table
Catamaran and manta neuston net

Objectives

1. To undertake flatfish and sediment sampling in St Andrews Bay, Outer Firth of Forth and Forth estuary in support of the Clean Seas Environment Monitoring Programme (OSPAR and MSFD).

2. To undertake sample preparation for subsequent eco-toxicological analyses.

3. To collect sediment samples from the Forth estuary on behalf of SEPA and for the

Quasimeme proficiency testing scheme.

4. To undertake survey of sea-surface litter in surface waters of the Scottish east coast.
5. Adventitious sampling of fish and shellfish for microplastics.

6. To survey the fish assemblage of the Forth estuary on behalf of SEPA.

Procedure

Fishing and scientific gear will be loaded in Fraserburgh prior to *Alba na Mara* sailing on 28 November. Flounder and five sediment stations will be sampled in St Andrews Bay, dab and five sediment stations in the outer Firth of Forth and flounder sampled in the Forth estuary. The neuston manta trawl will be deployed during passage from Fraserburgh to the Forth estuary. This net is to be towed at five knots, or less, for 30-90 minutes in order to collect and sample microplastics floating on the sea surface.

Further sediments will be collected from the lower Forth estuary for SEPA and bulk sediment collected for the Quasimeme proficiency testing scheme. Two SEPA staff will join the vessel and investigate the fish assemblage of the Forth estuary on the penultimate day of the survey. This will require the vessel to make a suitable port call for the evening of 3 December. Tables 1, 2 and 3 list the sediment, fishing and litter survey sites, respectively.

On completion of this survey, passage will be made to Leith from where all scientific gear and samples will be transferred to MSS (Aberdeen)/SEPA as required.

Rest Day Provision

This is an eight day survey that is due to finish on a Friday. Ordinarily this would mean that no further rest days are required after the weekend break. However, as the survey takes place over the St Andrew's Day holiday, staff will have a day in lieu to be taken on Monday 7 December.

General Arrangements

Liquid nitrogen and other chemicals (e.g. methanol, formalin) will be carried aboard for the preservation and storage of biological material.

Normal contacts will be maintained with the Laboratory.

Submitted:
C. Robinson
4 November 2014

Approved:
I. Gibb
6 November 2014.

Table 1
Sediment sampling locations.

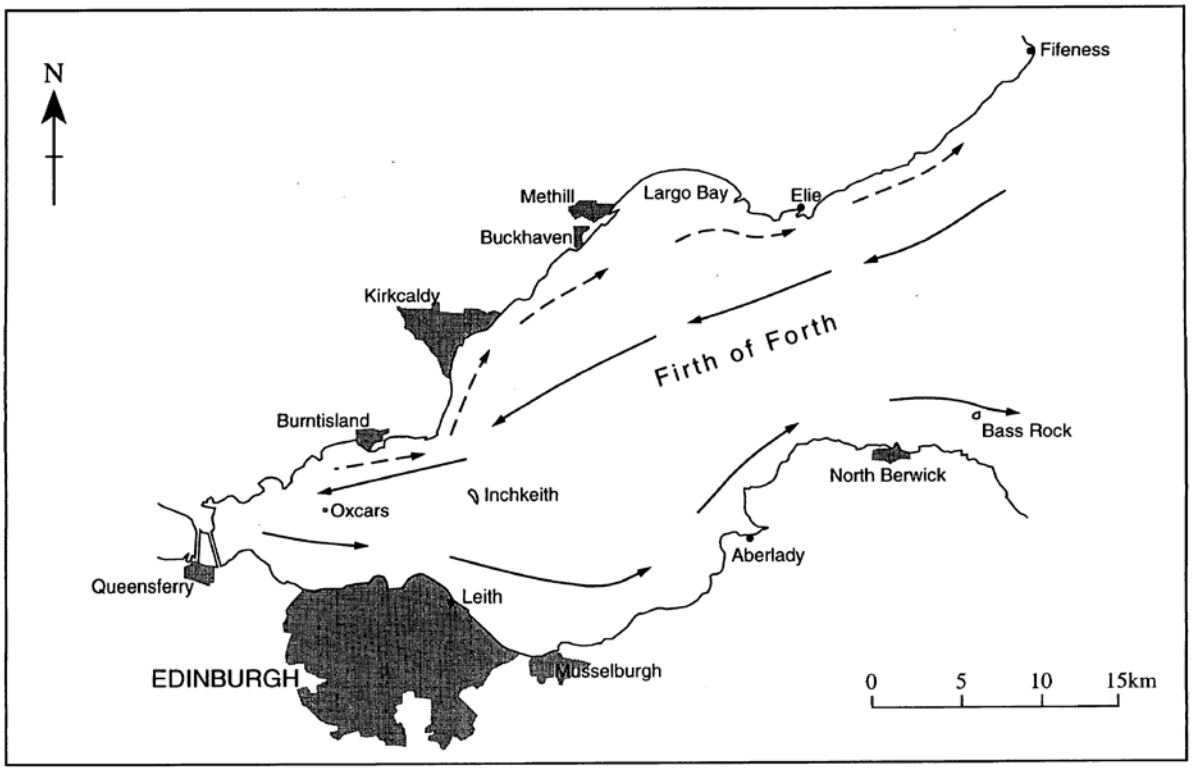
Region	Area	Site	Lat	Long
EScotland	St Andrews Bay	St Andrews Bay @ surveillance site 1	56.362	-2.628
EScotland	St Andrews Bay	St Andrews Bay Plankton Station 15	56.438	-2.660
EScotland	St Andrews Bay	St Andrews Bay @ surveillance site 2A	56.346	-2.616
EScotland	St Andrews Bay	St Andrews Bay	56.373	-2.698
EScotland	St Andrews Bay	St Andrews - mid trawl	56.376	-2.749
Forth	Outer Offshore	E Isle of May	56.199	-2.410
Forth	Outer Offshore	N Wheat Stack	56.000	-2.250
Forth	Outer Offshore	NE Torness	56.100	-2.340
Forth	Outer Offshore	Rath Grounds	56.159	-2.659
Forth	Outer Offshore	S Isle of May	56.133	-2.535
Forth	Lower Forth Estuary	LFE GC	56.016	-3.486
Forth	Lower Forth Estuary	LFE DB	56.014	-3.441
Forth	Lower Forth Estuary	Crombie	56.030	-3.531
Forth	Lower Forth Estuary	LFE FEEAP station 7 (from 2011)	56.028	-3.543
Forth	Lower Forth Estuary	LFE EB (from 2012)	56.020	-3.519

Table 2
Proposed fishing locations and fish requirements.

Region	Site	Lat	Long	Flounder		Common dab	
				Effects	Chem.	Effects	Chem.
EScotland	St Andrews Bay	56.360	-2.750	50	25		
Outer Firth of Forth	NE Dunbar	56.094	-2.400			50	25
Forth estuary	Tancred Bank	56.030	-3.560	50	25		
Forth estuary	3 locations to be fished by beam trawl for SEPA						

Table 3
Proposed litter sampling location.

Region	Site	No manta tows	Distance (each, nm)
Moray Firth	Off Fraserburgh	3	5
Moray Firth	Fraserburgh - Rattray Head	1	10
East Scotland coast	Rattray Hd - Buchan Ness	1	10
East Scotland coast	Buchan Ness – Girdle Ness	2	10
East Scotland coast	Girdle Ness – Scurdie Ness	2	10
East Scotland coast	Scurdie Ness – R. Tay	1	10
East Scotland coast	R. Tay - St Andrews Bay	1	7.5
Outer Firth of Forth	Between sediment sites	5	5 to 7.5
Outer Firth of Forth	Crail - Ellie	1	7.5
Inner Firth of Forth	Largo Bay	1	7.5
Inner Firth of Forth	Aberlady – Musselburgh	1	7.5
Inner Firth of Forth	Musselburgh – Leith	1	7.5
Inner Firth of Forth	Cramond	2	1.5
Forth estuary	Bridges – Torry Bay	4	1.5


N
Fifeness
Methill
Largo Bay
Elie
Buckhaven
Kirkcaldy
Firth of Forth
Burntisland
Bass Rock
North Berwick
Inchkeith
Oxcars
Aberlady
Queensferry
Leith
EDINBURGH
Musselburgh
0
5
10
15km