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## **MRV *Alba na Mara***

Survey 1918A

### **PROGRAMME**

29 November – 3 December 2018

### **Ports**

**Loading:** Leith, 26 November 2018

**Sailing:** Leith, 29 November 2018

**Unloading:** Leith, 03 December 2018

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 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.

### **Sampling Gear:**

BT 158 with 50 mm cod-end

2 m beam trawl with 50 mm cod-end

Day grab and table

Catamaran and neuston net

### **Objectives**

1. To undertake flatfish sampling in St Andrews Bay, Outer Firth of Forth and the Forth estuary (Tancred) in support of the Clean Seas Environment Monitoring Programme (OSPAR and MSFD).
2. To undertake sediment sampling in the Outer Firth of Forth and the Forth estuary in support of the Clean Seas Environment Monitoring Programme (OSPAR and MSFD).
3. To undertake survey of sea-surface litter in surface waters of the Forth and Scottish east coast and record seabed litter collected by the trawls (MSFD D10).
4. To undertake fish, shellfish and sediment sampling in support of the microplastics ROAME (ST014).

**Estimated Days per Project:** 3 days ST04a (OSPAR & MSFD D8); 1 day ST04c (MSFD D10) and 1 day ST014

## **Procedure**

Fishing and scientific gear will be loaded in Leith at the end of the previous survey, prior to *Alba na Mara* sailing on 29 November. After all drills have been completed, and in consultation with the master, the vessel will steam for the first allocated station. Flounder will be sampled in St Andrews Bay and in the Forth estuary (Tancred bank), dab will be sampled in the Outer Firth of Forth. Five sediment stations will be sampled at each of the Outer Firth of Forth and the Forth estuary; at each station two grabs will be taken: one for contaminants and one for microplastics. The neuston trawl will be deployed in the Forth estuary, the Firth of Forth, and off the east coasts of Fife and East Lothian. 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. An additional sediment sample to be collected by Day grab from under the course of each catamaran tow for subsequent microplastics determinations. A variety of fish species will be adventitiously sampled from the trawls and frozen for work-up in the laboratory as part the microplastics ROAME (ST014). Records will be made of seabed litter caught by the trawls.

Tables 1, 2 and 3 list the sediment, fishing and sea surface 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).

## **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:  
G Packer  
08 November 2018

Approved:  
I Gibb  
20 November 2018

**Table 1:** Sediment sampling locations.

Region	Area	Site	decLat	decLong	Lat	Long
Forth	Outer Offshore	E Isle of May	56.199	-2.410	56 11.94N	002 24.60W
Forth	Outer Offshore	N Wheat Stack	56.000	-2.250	56 00.00N	002 15.00W
Forth	Outer Offshore	NE Torness	56.100	-2.340	56 06.00N	002 20.40W
Forth	Outer Offshore	Rath Grounds	56.159	-2.659	56 09.54N	002 39.54W
Forth	Outer Offshore	S Isle of May	56.133	-2.535	56 07.98N	002 32.10W
Forth	Lower Forth Estuary	LFE GC	56.016	-3.486	56 00.96N	003 29.16W
Forth	Lower Forth Estuary	Tancred	56.005	-3.509	56 00.28N	003 30.54W
Forth	Lower Forth Estuary	Crombie	56.030	-3.531	56 01.80N	003 31.86W
Forth	Lower Forth Estuary	LFE FEEAP station 7 (from 2011)	56.028	-3.543	56 01.68N	003 32.58W
Forth	Lower Forth Estuary	LFE EB (from 2012)	56.014	-3.454	56.00.84N	003 27.24W

**Table 2:** Proposed fishing locations and fish requirements.

Region	Site	decLat	decLong	Lat	Long	Species	Gear	Bio-effects	Chemistry
E Scotland Coast	St Andrews Bay	56.360	-2.750	56 21.60N	002 45.00W	Flounder	Bottom trawl	50	*25
Outer Firth of Forth	NE Dunbar	56.094	-2.400	56 05.64N	002 24.00W	Dab	Bottom trawl	50	*25
Lower Forth Estuary	Tancred Bank	56.030	-3.560	56 01.80N	003 33.60W	Flounder	Beam Trawl	50	*25

**Table 3:** Proposed neuston net (sea surface litter) sampling locations.

Region	No neuston net tows	Duration (mins)
East Scotland coast	<5	60
Outer Firth of Forth	<5	60
Inner Firth of Forth	<5	30-60
Forth estuary	<5	30

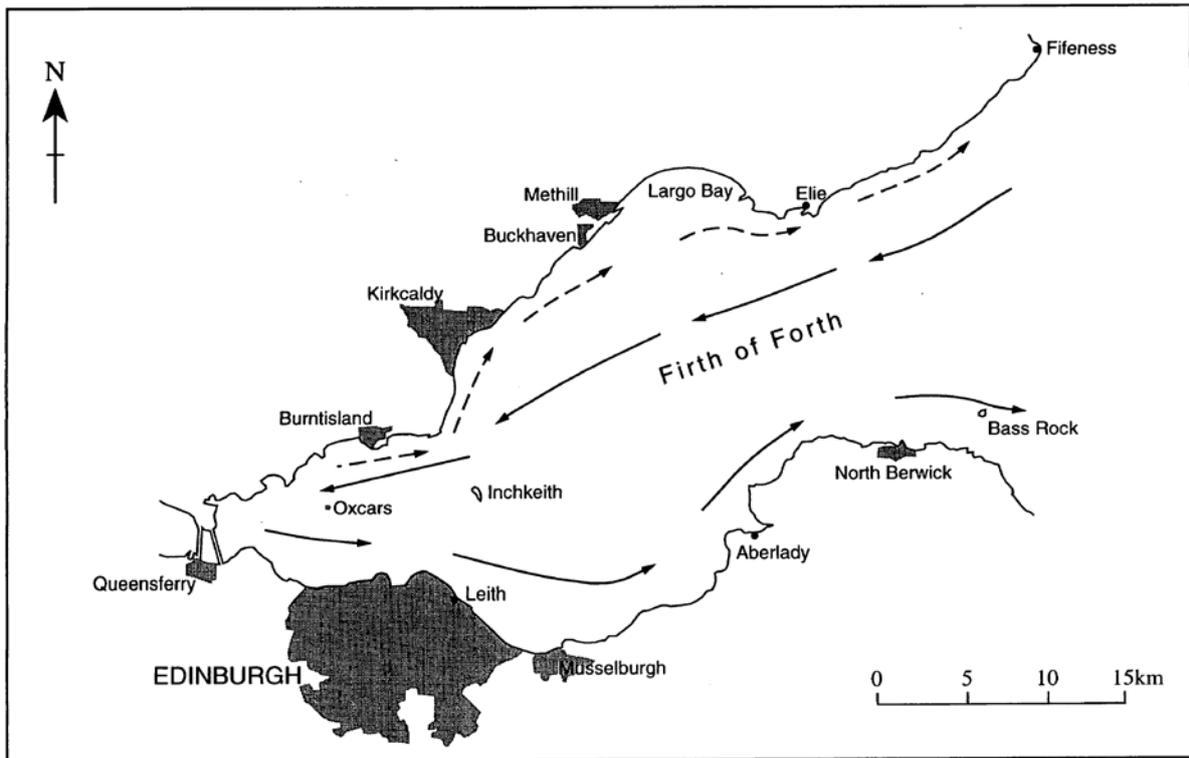


Figure 1: Work region for 1918A.