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MRV *Alba na Mara*

Survey 2117A

PROGRAMME

30 November - 4 December 2017

Ports

Loading: Leith, 27 November 2017
Sailing: Leith, 30 November 2017
Unloading: Leith, 04 December 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 (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.

Personnel

C. Robinson (SIC)
G. Packer
N. Shepherd

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, inner Firth of Forth, and the Forth estuary in support of the Clean Seas Environment Monitoring Programme (OSPAR and MSFD D8).
2. To undertake sediment sampling in the St Andrews Bay, Outer Firth of Forth and the Forth estuary in support of the Clean Seas Environment Monitoring Programme (OSPAR and MSFD D8).
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 30 November. Flounder will be sampled in St Andrews Bay and in the Forth estuary (Tancred bank), dab will be sampled in the inner Firth of Forth. Five sediment stations will be sampled at each of St Andrews Bay, the outer Firth of Forth and the Forth estuary; at each station two grabs will be taken: one for contaminants and one for microplaastics. 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. Samples 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).

Rest Day Provision

This is a five day survey over a weekend and public holiday. Assuming staff have worked all of the week before departure, then the public holiday will be taken on Tuesday 5 December and a rest day will be taken on Wednesday 6 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
26 October 2017

Approved:
I Gibb
21 November 2017

Table 1: Sediment sampling locations.

Region	Area	Site	Lat	Long	Lat	Long
E Scotland	St Andrews Bay	St Andrews Bay @ surveillance site 1	56.362	-2.628	56 21.72	-02 37.68
E Scotland	St Andrews Bay	St Andrews Bay Plankton Station 15	56.438	-2.660	56 26.28	-02 39.60
E Scotland	St Andrews Bay	St Andrews Bay @ surveillance site 2A	56.346	-2.616	56 20.76	-02 36.96
E Scotland	St Andrews Bay	St Andrews Bay	56.373	-2.698	56 22.38	-02 41.88
E Scotland	St Andrews Bay	St Andrews - mid trawl	56.376	-2.749	56 22.56	-02 44.94
Forth	Outer Offshore	E Isle of May	56.199	-2.410	56 11.94	-02 24.60
Forth	Outer Offshore	N Wheat Stack	56.000	-2.250	56 00.00	-02 15.00
Forth	Outer Offshore	NE Torness	56.100	-2.340	56 06.00	-02 20.40
Forth	Outer Offshore	Rath Grounds	56.159	-2.659	56 09.54	-02 39.54
Forth	Outer Offshore	S Isle of May	56.133	-2.535	56 07.98	-02 32.10
Forth	Lower Forth Estuary	LFE GC	56.016	-3.486	56 00.96	-03 29.16
Forth	Lower Forth Estuary	LFE DB	56.014	-3.441	56 00.84	-03 26.46
Forth	Lower Forth Estuary	Crombie	56.030	-3.531	56 01.80	-03 31.86
Forth	Lower Forth Estuary	LFE FEEAP station 7 (from 2011)	56.028	-3.543	56 01.68	-03 32.58
Forth	Lower Forth Estuary	LFE EB (from 2012)	56.020	-3.519	56 01.20	-03 31.14

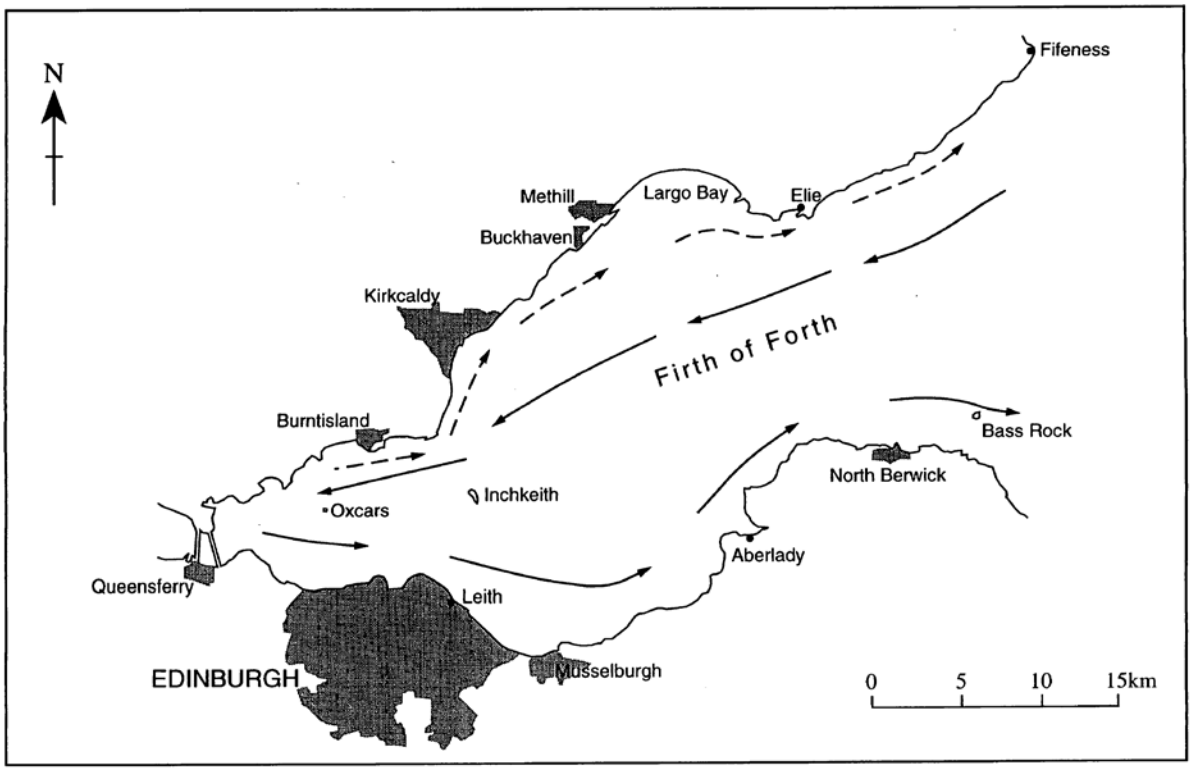
Table 2: Proposed fishing locations and fish requirements.

Region	Site	Lat	Long	Lat	Long	Species	Bio-effects	Chemistry
E Scotland Coast	St Andrews Bay	56.360	-2.750	56 21.60	-02 45.00	Flounder	50	*25
Inner Firth of Forth	Kingston Hudds	56.130	-2.901	56 07.80	-02 54.06	Dab	50	*25
Lower Forth Estuary	Tancred Bank	56.030	-3.560	56 01.80	-03 33.60	Flounder	50	*25

*5 pools of 5

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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Largo Bay
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Buckhaven
Kirkcaldy
Firth of Forth
Burntisland
Bass Rock
North Berwick
Inchkeith
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Queensferry
Leith
EDINBURGH
Musselburgh
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