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MRV *Alba na Mara*

Survey 1721A

PROGRAMME

29 November – 3 December 2021

Ports

Loading: Leith, 24 November 2021

Sailing: Leith, 29 November 2021

Unloading: Leith, 0 December 2021

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, Inner 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 St Andrews Bay, Inner 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 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. 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 sampling region (St Andrews Bay, Inner Firth of Forth and the Forth estuary), and at each station two grabs will be taken: one for contaminants and one for microplastics. The neuston trawl (catamaran) will be deployed in the Firth of Forth using specific coordinates provided in Table 3 and each tow will last 30 minutes. This net is to be towed at five knots, or less, for 30 minutes in order to collect and sample microplastics floating on the sea surface. 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 weekdays, therefore, rest days will be taken over the weekend after the completion of the survey.

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:

M Campbell
17 November 21

Approved:

I Gibb
25 November 2021

Table 1: Sediment sampling locations.

Region	Area	Site	decLat	decLong	Lat	Long
Forth	Inner Offshore	Kingston Hudds	56.097	-2.923	56 05.80N	002 55.40W
Forth	Inner Offshore	Fairway Buoy	56.050	-3.002	56 03.00N	003 00.09W
Forth	Inner Offshore	Firth of Forth 49	56.119	-2.862	56 07.14N	002 51.74W
Forth	Inner Offshore	Firth of Forth 38	56.080	-2.987	56 04.79N	002 59.22W
Forth	Inner Offshore	Firth of Forth 33	56.049	-3.046	56 02.95N	003 02.74W
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
E Scotland	St Andrews Bay	St Andrews Bay @ surveillance site 1	56.362	-2.628	56 21.72N	002 37.68W
E Scotland	St Andrews Bay	St Andrews Plankton Station 15	56.438	-2.660	56 26.28N	002 39.60W
E Scotland	St Andrews Bay	St Andrews Bay @ surveillance site 2A	56.346	-2.616	56 20.76N	002 36.96W
E Scotland	St Andrews Bay	St Andrews Bay	56.373	-2.698	56 22.38N	002 41.88W
E Scotland	St Andrews Bay	St Andrews Bay – mid trawl	56.376	-2.749	56 22.56N	002 44.94W

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
Inner Firth of Forth	Kingston Hudds	56.130	-2.901	56 07.80N	002 54.06W	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 start locations.

Station	decLat	decLong	Lat	Long
Forth 1	56.025	-3.551	56 01.50N	003 33.06W
Forth 2	56.011	-3.448	56 00.66N	003 26.88W
Forth 3	56.008	-3.382	56 00.48N	003 22.92W
Forth 4	56.020	-3.098	56 01.20N	003 05.88W
Forth 5	56.111	-2.848	56 06.66N	002 50.88W
Forth 6	56.081	-2.981	56 04.86N	002 58.86W

Maps of sampling regions





