

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

MRV *Alba na Mara*

Survey 2112A

PROGRAMME

19 November – 4 December 2012

Ports

Loading: Fraserburgh (16 November 2012)

Sailing: Fraserburgh (19 November 2012)

Unloading: Leith (4 December 2012)

In setting the cruise 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 cruise with staff on-board before work is commenced.

In the interest of efficient data management it is now mandatory to return the Cruise Report, to I Gibb and the Cruise Summary Report (old ROSCOP form) to M Geldart, within four weeks of a cruise ending. In the case of the Cruise Summary Report a nil return is required, if appropriate.

Personnel

C Robinson (SIC)
G Packer (Part 1)
K MacNeish
P Dymond (Part 2)

Fishing gear: BT 158 and 2m beam trawl, both with 50 mm cod-ends

Objectives

1. To undertake flatfish sampling in the estuary and Firth of Clyde in support of CSEMP, temporal trend and integrated assessment of contaminants monitoring studies.
2. To undertake flatfish sampling in the Solway Firth in support of the Clean Seas Environment Monitoring Programme, including integrated assessment studies.
3. To undertake sediment sampling in the Solway Firth in support of the temporal trend and integrated assessment of contaminants monitoring studies.
4. To undertake flatfish and sediment sampling at Colonsay in support of temporal trend monitoring programme.
5. To undertake sampling of sediments and of flounder in St Andrews Bay, and the Forth estuary (or Firth of Forth) in support of CSEMP and the integrated assessment of biomarker monitoring programme.

6. To collect samples in support of investigations into whether Amoebic Gill Disease (AGD) is present in Scottish flatfish

Estimated Days per Project: 15 days ST03n; 1 day AQ03n

Procedure

Fishing and scientific gear will be loaded onto the *Alba na Mara* in Fraserburgh on 16 November. The scientific staff will join the vessel on 19 November, ready to sail at 08:00. The survey programme will be followed, with any amendments (due to weather, etc.) made as required and *Alba na Mara* is expected to berth in Leith on the evening of 3 December.

Weather permitting, *Alba na Mara* will sail first to the Solway/Clyde, collecting plaice and sediment samples from Colonsay on the outward, or return leg, depending upon weather.

Flatfish (plaice and dab) will be collected from the Solway CSEMP fishing site and tissues sampled for chemical and ecotoxicological analyses; gill samples will be collected for the AGD study. One sediment sample for benthic invertebrates and one for sediment chemistry will be collected from each of the five Solway and five outer Clyde CSEMP sites. In the Clyde flatfish and sediments will be sampled from: the outer Firth of Clyde at Pladda (plaice); the inner Firth of Clyde at Garroch Head (plaice), Skelmorlie (plaice), Holy Loch (plaice and dab, or flounder). If required, plaice will be collected from Hunterston and Irvine Bay in the Clyde. *Alba na Mara* will then make passage around to the east coast where flatfish will be sampled from St Andrews Bay (flounder), and either the lower Forth estuary at Tancred Bank (flounder), or the inner Firth of Forth (dab or flounder). Sediments will be collected from St Andrew's Bay (for MSS) and from the lower Forth estuary (for SEPA). Figure 1 shows the sampling locations; Tables 1 and 2 list the sediment and fish sampling sites, respectively.

On completion of this survey, passage will be made to Leith where all scientific gear and samples will be transferred to the ML Aberdeen.

General Arrangements

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

Normal contacts will be maintained with the Laboratory.

Submitted:
C Robinson
26 October 2012

Approved:
I Gibb,
13 November 2012

Table 1: Sediment Sampling Locations

Region	Area	Site	Lat	Long	Depth
Forth	Lower Forth Estuary	LFE GC	56.016	-3.486	11
Forth	Lower Forth Estuary	LFE DB	56.014	-3.441	10
Forth	Lower Forth Estuary	Crombie	56.030	-3.531	11
Forth	Lower Forth Estuary	LFE FEEAP station 7 (from 2011)	56.028	-3.543	7
Forth	Lower Forth Estuary	LFE EB (from 2012)	56.020	-3.519	6
Minch	Colonsay		56.099	-6.079	25
Minch	Colonsay		56.090	-6.141	12
Minch	Colonsay		56.167	-6.116	30
Minch	Colonsay		56.152	-6.071	50
Minch	Colonsay	MinchMalin_Colonsay_se01	56.119	-6.051	30
EScotland	St Andrews Bay	St Andrews Bay @ surveillance site 1	56.362	-2.628	17
EScotland	St Andrews Bay	St Andrews Bay Plankton Station 15	56.438	-2.660	7
EScotland	St Andrews Bay	St Andrews Bay @ surveillance site 2A	56.346	-2.616	18
EScotland	St Andrews Bay		56.373	-2.698	14
EScotland	St Andrews Bay	St Andrews Bay - mid trawl	56.380	-2.746	9
Solway	Solway	SF7	54.723	3.887	
Solway	Solway	SF4	54.745	-3.876	
Solway	Solway	SF3	54.750	-3.915	
Solway	Solway	SF1	54.727	-3.960	
Solway	Solway	NMMP25	54.750	-3.992	

Table 2: Proposed Fishing Locations and Fish Requirements

	Lat	Long	FLOUNDER			COMMON DAB			PLAICE		
			Effects	AGD*	Chem.	Effects	AGD*	Chem.	Effects	AGD*	Chem.
Solway	54.673	-4.031				50	25	25	25	25	25
Skelmorlie	55.825	-4.917							-	20	20
Hunterston ¹	55.787	-4.884							-	20	20
Garroch Head	55.650	-4.940							20	20	20
Irvine Bay ¹	55.600	-4.810							-	20	20
Pladda	55.420	-5.250							25	25	25
Colonsay	56.090	-6.080							-	20	20
St Andrews Bay	56.360	-2.750	50	25	25						
Tancred Bank	56.030	-3.560	50	25	25						
Inner Firth of Forth ²	56.120	-2.920	If no dab obtained			50	25	25			

*Gills to be sampled for Amoebic Gill Disease (histology and qPCR)

¹Only to be fished if not collected on the earlier *Sir John Murray* survey

²Alternative to Tancred Bank, only sampled if fish are already sampled from Alloa (separately to the survey)

Figure 1: 2112A sediment (brown diamond) and fish (black star) sampling sites. Potential fishing site in the Firth of Forth is indicated by orange star; only one site will be fished in the Forth

