

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

MRV *Alba na Mara*

Survey 1116A

## **PROGRAMME**

25 June - 8 July 2016

**Boarding:** Greenock, 25 June, 2016

**Loading:** Fraserburgh, 07 June 2016

**Unloading:** Fraserburgh, 8 July 2016

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**

P Boulcott (SIC)

N Collie

J Clarke

J Thorburn (30 June to 8 July)

**Project:** 14 days, SP020Q

## **Sampling Gear and Equipment**

15 x Fish traps

Pyramid frame and calibration mesh

Large pyramid camera drop frame

HD TV system and lights

Armoured cable, spare and axle stands

2 Laser

## **Overview**

Survey 1116A, in combination with 1016A, serves work carried out by Marine Scotland Science investigating Scotland's MPA network. Data are required to underpin the management of the new suite of marine protected areas and to meet commitments prescribed by the Marine Strategy Framework Directive. The 1116A survey aims in particular to establish the current status of the seabed in the South of Arran MPA and demersal fish species within both the South of Arran MPA and the Loch Sunart to the Sound of Jura MPA.

## **Objectives**

1. To establish a baseline dataset relating to benthic priority marine features within the South of Arran MPA using quantitative, drop-camera sampling methods.
2. To collect baseline data relating to demersal fish species from within the South of Arran MPA, the Loch Sunart to the Sound of Jura MPA and from several outside reference sites.
3. To develop UWTV techniques for the survey of elasmobranch egg cases in the Sound of Jura.
4. To deploy three acoustic moorings as part of the skate tagging array (Figures 2 and 3).

## **Embarkation**

Scientists will join the vessel on the morning of 24 June at Greenock. Weather permitting *Alba na Mara* will depart and head for the South of Arran MPA early on 25 June.

## **Benthic Survey**

A benthic survey of the seabed at various sites inside and outside the South Arran MPA will be carried out during 1116A. The survey will utilise the pyramid TV camera system deployed from the aft of the vessel. Species type, species densities and substrate type (assessed visually) will be classified for each video transect post-survey. RoxAnn sediment data will also be collected at each site. Survey boxes are shown in Figure 1. If high levels of creels at these sites preclude safe access, time allocated to this survey will be transferred to the fish trap survey.

## **Fish Trap Survey**

A fish trap survey at various sites within the South of Arran MPA and the Loch Sunart to the Sound of Jura MPA will be carried out during 1116A. This work follows up on similar work performed in 1016A. The location of potential survey sites are indicated in Figures 1 and 2. Traps will be deployed in the first half of the day and collected in the afternoon. Time will be set aside during the midday to collect fresh trap bait and to set traps fitted with monitoring cameras. Species composition and length frequency distributions of fish caught will be determined. All samples will be weighed and, where appropriate (Cod, Whiting, Haddock), their otoliths removed to establish age.

## **Egg Case Survey**

A census of elasmobranch egg cases using the UWTV survey of the seabed will be trialled at various sites around the Loch Sunart to the Sound of Jura MPA during 1116A (Figure 2). The survey will utilise the pyramid TV camera system previously employed in the benthic survey.

## **Operations**

Daily scientific sampling will occur between 07:00 and 19:00 hours (all times UTC). UWTV and fish survey work will commence, weather permitting, in the South of Arran MPA then moving to the Mull of Kintyre prior to the afternoon of the 30 June (Figure 1). On the afternoon of 30 June the vessel will make way for Campbeltown for the scientific staff to join

the survey. The vessel will then make way Loch Sunart to the Sound of Jura MPA where further UWTV and fish trap surveys will take place (Figures 2a and 2b.). Three moorings (Figures 2 and 3) to the south of The Isle of Mull will be deployed at this time as part of the skate tagging array.

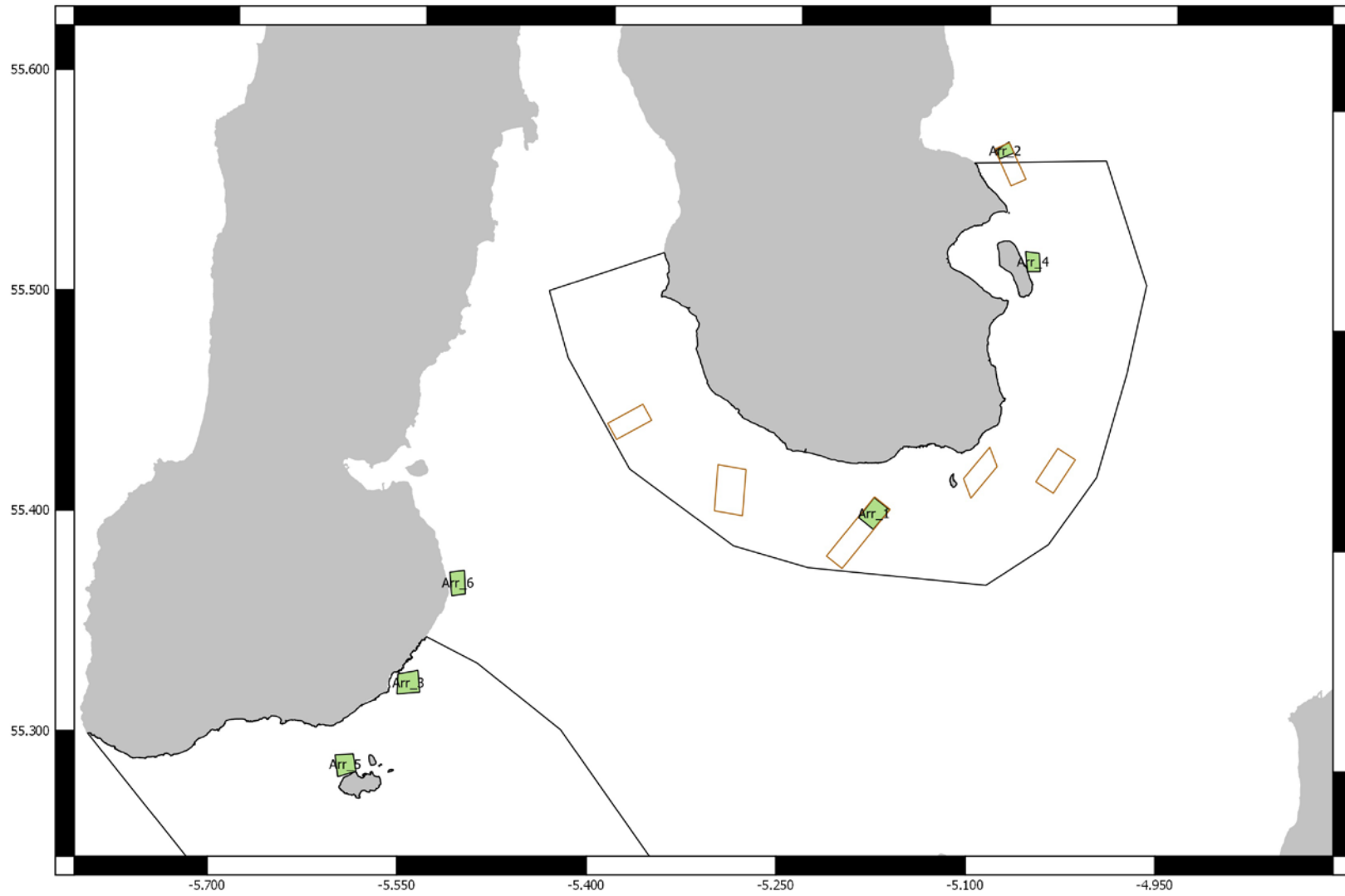
Work will cease on the afternoon of 5 July to allow sufficient time for the vessel to travel to Fraserburgh. Unloading will occur in Fraserburgh harbour on the morning of 8 July.

Normal contact will be maintained with the Laboratory.

Submitted:  
P Boulcott  
27 May 2016

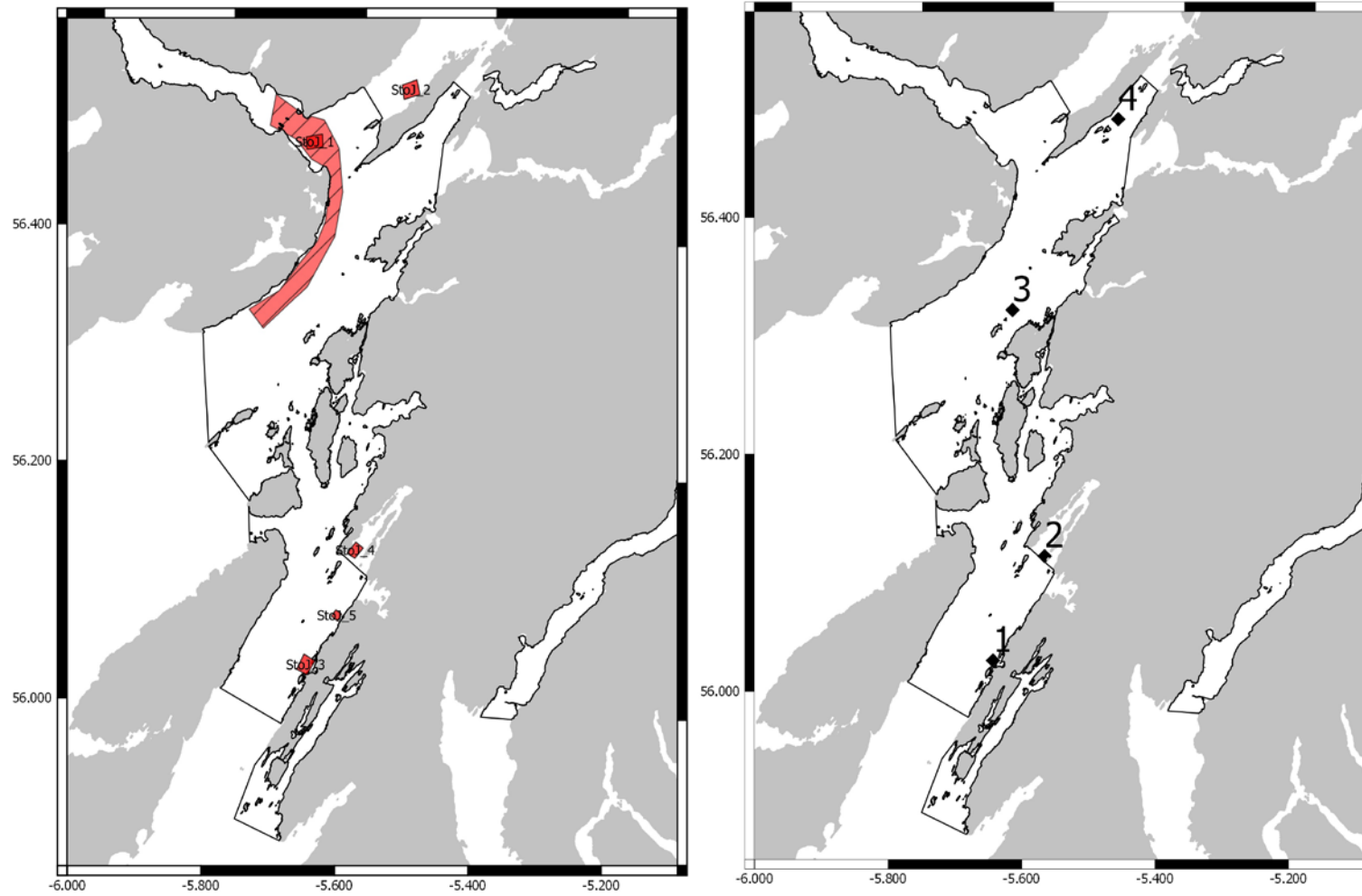
Approved:  
I Gibb  
22 June 2016

**Figure 1:** 2016 survey areas: South of Arran MPA UWTV boxes (depicted in green).





**Figure 2:** 2016 survey areas: Loch Sunart to the Sound of Jura MPA. Locations of UWTV stations (red squares) mooring arrays (red hatch) and egg case sampling areas (diamonds) are shown.



**Figure 3:** Schematic of the acoustic receivers.

