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MRV *Alba na Mara*

Survey 1213A

PROGRAMME

2 - 27 September 2013

Loading: Fraserburgh, 30 August 2013

Unloading: Fraserburgh, 27 September 2013

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

2 – 13 Sep	14 – 15 Sep	15 – 21 Sep	21 – 27 Sep	provisional dates
Philip Boulcott	Philip Boulcott	Philip Boulcott	Philip Boulcott	SIC
Peter Wright	Jim Hunter	Jim Hunter	Jim Hunter	
David Stirling	José González	José González	Lisa Kamphausen	SNH
Clare Greathead	John Dunn (tbc)		James Dargie	SNH
Jim Hunter				

Project: 19 days SP004; 6 days SP02QO

Gear

Pyramid frame and underwater video camera kit.

Pyramid frame calibration mesh (2 x wire panels)

Gulf III (x2) + cradle; 200 µm net and cod ends

Day grab (x 2) and table

Large plastic fish tank (white) + black fish tank

Acoustic release transmitter and acoustic locator

Scanmar depth units (x2)

Objectives

Benthic survey

1213A will survey two Marine Protected Area (MPA) search locations sited within Scottish inshore waters; an area encompassing the island of Canna (Fig. 1) and waters around the Summer Isles and adjoining sea lochs (Fig. 2). It is the primary objective to survey monitoring sites previously surveyed in 1012A in each of the two areas and to locate further suitable sites that support Scotland's Priority Marine Features. Work from these surveys will be used to determine the effect of MPAs established in Scottish waters. Both sites will be surveyed by the *Alba na Mara* using an underwater camera system developed by MSS. Multi-beam data and Roxann substrate data will also be collected. Species type, species densities and substrate type will be recorded during the survey. Further post survey analysis will be conducted on this data. The work underpins work package 4 of the research ROAME SP004.

Larval dispersal

1213A will also sample plankton from the water around Canna. The programme of work follows on from the plankton survey conducted in the June 2012 survey 1012A, where significant numbers of *Atrina fragilis* larvae were found. Using a Gulf III plankton sampler and a stratified depth sampling approach, work will focus on a larger spatial scale than the 1012A survey, which concentrated primarily within the bounds of the Sound of Canna.

Further to this work, 1213A will also retrieve spat collecting moorings from Canna Sound (Fig. 3), which were deployed from the *RV Scotia* on 20 June 2013 (0713S). *A. fragilis* spat found on the spat collectors will be measured, weighed and placed in holding tanks for further cultivation in the laboratory. The survey will also retrieve the McLane Zooplankton Sampler – an autonomous time-series sampling instrument – also deployed on 0713S. The ZPS is sited on the dredge spoil site that lies close to the aggregation of *A. fragilis* in the Sound, where it has been sampling plankton bi-weekly since 20 June 2013 (Fig. 3).

Search Feature Validation Survey – SNH

Further camera and grab survey work will be completed in the Shiant East Bank and North West Sea Lochs & Summer Isles MPAs (Fig.4 & 5). The primary focus of this work, outlined by SNH, is to gather biological data to help inform our understanding of the shelf banks and mounds and northern sea-fan and sponge communities within the Shiant East Bank MPA proposal and to determine the wider distribution of proposed protected features within the proposed North-west Sea Lochs & Summer Isles MPA.

General

Weather permitting, *Alba na Mara* will depart Fraserburgh at 10:00 on 2 September heading for the west coast. If the weather is suitable the vessel will continue her passage down to the Small Isles where she will operate over the next 9 days. During this time the vessel will conduct a photographic survey in the waters surrounding the islands of Canna and Rum and retrieve the moorings from the water around Canna sound (Fig. 3). Passage will be made for Mallaig for the purposes of a half landing and to disembark scientific staff on the 13 September (all dates are provisional). If necessary, and after a further change to scientific crew, the vessel will return to Canna on the morning of the 14 September. to retrieve any remaining moorings.

The vessel will then head north to survey the seabed around the Summer Isles, adjoining sea lochs, and west of Lochinver until the 21 September. Passage will be made for Ullapool on the evening of the 21st where further crew changes will take place. The final phase of the cruise is under the direction of Scottish Natural Heritage (SNH) and will survey the waters around the Shiant East Bank MPA search location and within the proposed North-west Sea Lochs & Summer Isles MP. A photographic camera and grab survey will be conducted at these locations. Passage will be made for Fraserburgh on the evening of the 25 Sep., with unloading taking place on the 27 Sep.

Normal contact will be maintained with the Laboratory.

Submitted:
P Boulcott
21 August 2013

Approved:
I Gibb
28 August 2013.

Figure 1: Map of the study area in the waters adjacent to the islands of Canna and Rum. Boxes and filled circles denote potential areas of scientific study

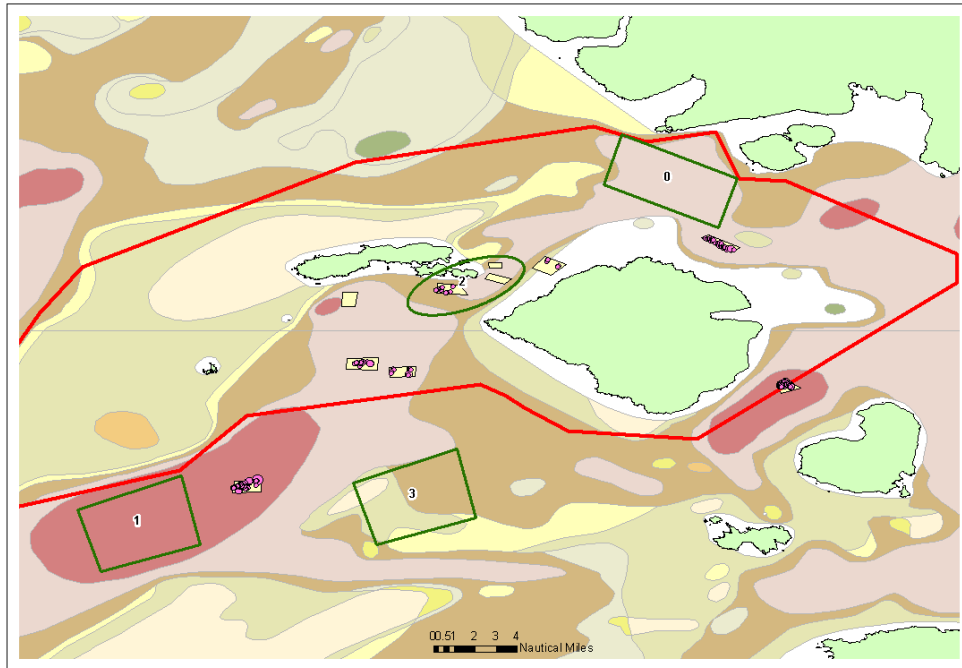


Figure 2: Map of the study area in the waters adjacent to the Summer Isles and adjoining sea lochs. Boxes, open circles and filled circles denote potential areas of scientific study.

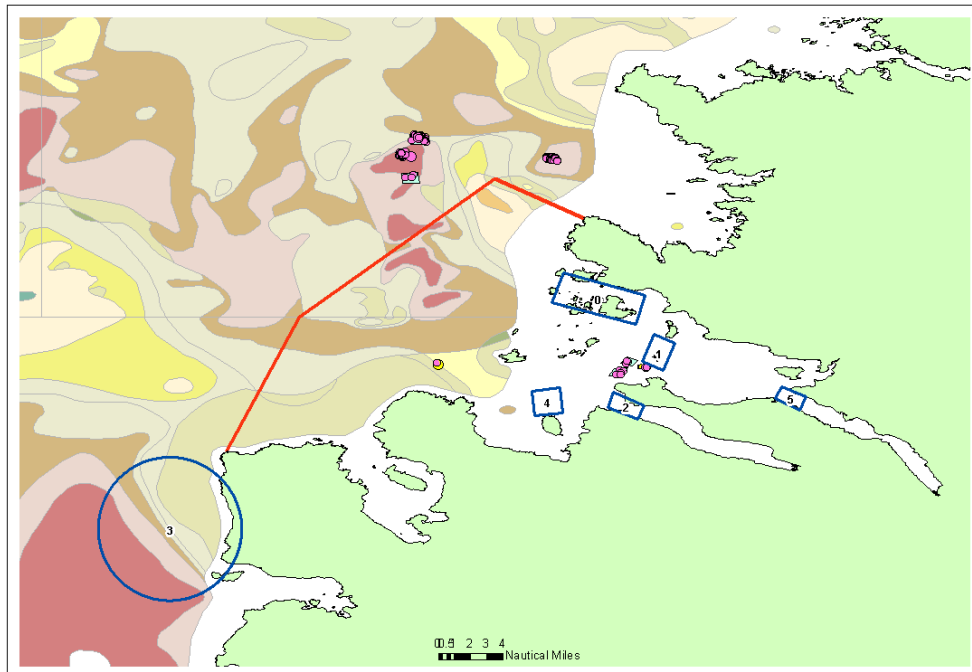


Figure 3: Map of the spat collecting moorings and Zooplankton sampler (ZPS) in the waters around Canna.

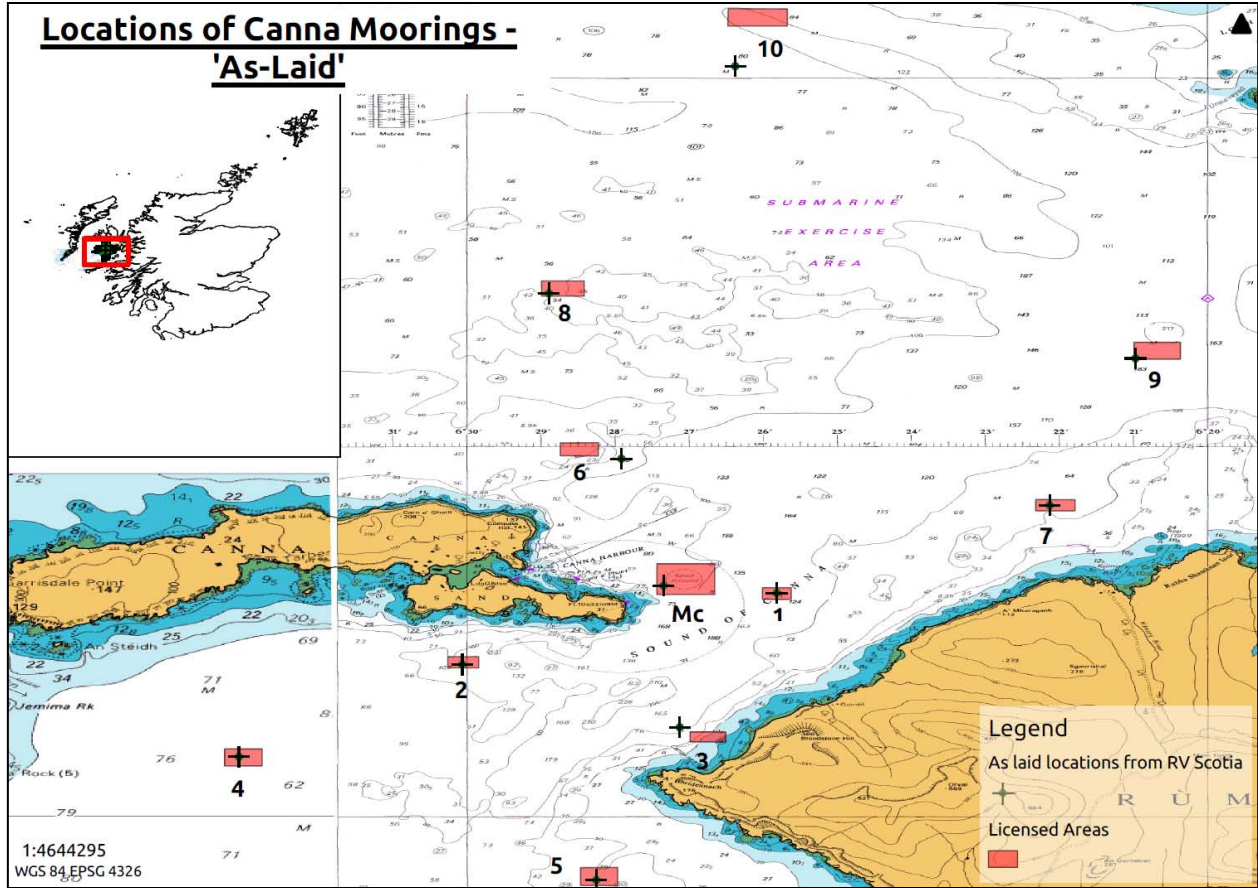


Figure 4: Proposed sampling locations Shiant East Bank

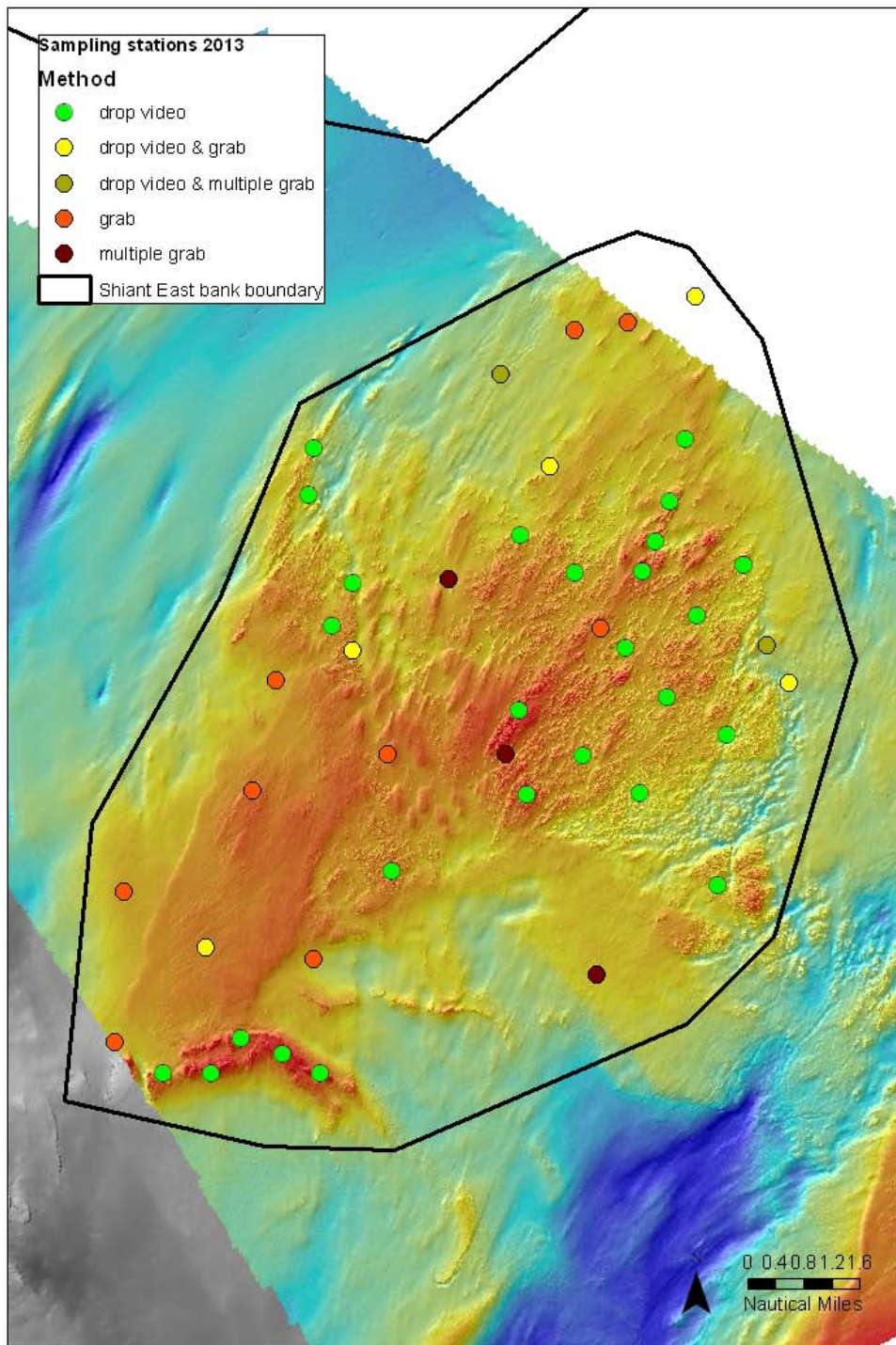


Figure 5: Proposed sampling locations North-West Sea Lochs & Summer Isles

