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MRV *Alba na Mara*

Survey 1415A

PROGRAMME

14 September to 1 October 2015

Ports
Loading: Fraserburgh, 10 September 2015
Depart: Fraserburgh, 14 September 2015
Unloading: Oban, 01 October 2015

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
J Hunter	
L Kamphausen	SNH
J Dargie	SNH

Sampling Gear and Equipment

- Drop HD camera/video frame
- Lasers x 2
- 2 X Day Grab and table, 1 mm sieves

Estimated Days per Project: SNH, 18 days

Overview

Survey 1415A serves work carried out by Scottish Natural Heritage investigating the distribution and quality of benthic biotopes around Scotland. The data are required to underpin designation and management of the new suite of marine protected areas and to meet commitments prescribed by the Marine Strategy Framework Directive. The survey aims in particular to establish the current status of benthic habitats within the South Arran Nature Conservation MPA and the Sound of Barra SAC. If weather conditions prevent passage or work in either location or if the work is completed at these two sites ahead of schedule, then comparable work will take place within the Lochs Duich, Long and Alsh MPA/SAC (Table 1).

Objectives

1. To establish the current status of benthic habitat protected features within targeted survey areas at each of the protected areas using quantitative drop-camera sampling methods.

2. To collect seabed samples using the day grab for sediment size classification and for infaunal analysis. Collected infaunal samples will be stored in 4% formalin.

3. Subject to weather conditions/time - to undertake comparable work within the Lochs Duich, Long and Alsh SAC/MPA. To ground-truth areas of likely Annex I reef habitat within Loch Alsh (guided by 2013 multibeam survey data - see Figure 5). To better define areas of burrowed mud habitat of the overlapping MPA in this outer part of the site to improve existing feature distribution mapping.

Figure 1 provides an overview of the areas targeted for the survey, and details of sampling stations in each area are illustrated in Figures 2-5. Stations for drop video sampling within the target monitoring boxes have not been plotted yet. Deployment lines will be agreed on the basis of prevalent weather/tidal conditions at the start of each box, but tows of up to one hour are envisaged. Anticipated duration of work in each area is provided in Table 1. Additional contingency sampling areas have been developed for the Sound of Barra and also for Lochs Duich, Long and Alsh to allow for adverse weather conditions.

Table 1

AREA	**PLANNED DAYS**	**VIDEO STNS (n)**	**GRABS (n)**
South Arran	4	5 boxes @6 runs per box = **~30 runs** (~1hr+ each duration)	54-64
Sound of Barra	3-4	4-5 boxes @6 runs per box = **~24-30 runs** (~1hr+ each duration)	41-51
Loch Alsh	1.5-2.5 (up to 4 days work outlined if weather poor)	2-4 boxes @6 runs per box = ~max. of 24 runs (~1hr+ each duration) 2 flame shell boxes @4 runs per box = 8 runs (~1/2hr each duration) 32 targeted 15 min drops	10-20
Totals	9.5 days + Transits of ~640NM (at 8 knots = 80hrs = ~6.5 days + 1-day landing 1-day unload **= 17 days**	Max. ~80hrs	Max.~ 125

General

Scientific equipment will be loaded onto *Alba na Mara* on Thursday 10 September 2015.

Scientists will join the vessel in Fraserburgh on the morning of Monday 14 September, with the vessel proceeding to the first sample station at the earliest opportunity. Daily scientific sampling will occur between 0600 and 1800 hours (all times UTC). Sample stations and the

operations to be used are indicated in Figures 2-5. A half landing will take place on 22 September at Campbeltown. Further opportunities for the vessel to top up on freshwater will be taken opportunistically, however, *Alba na Mara* may be required to dock overnight at a suitable locality for this purpose.

Scientific operations will cease on the afternoon of 29 or on 30 September to allow sufficient time for the vessel to travel to Oban. Unloading will occur in Oban harbour on the morning of 1 October.

Normal contacts will be maintained with the Marine Laboratory.

Submitted:
P Boulcott,
31 August 2015.

Approved:
I Gibb
04 September 2015

Figure 1: 2015 survey areas.

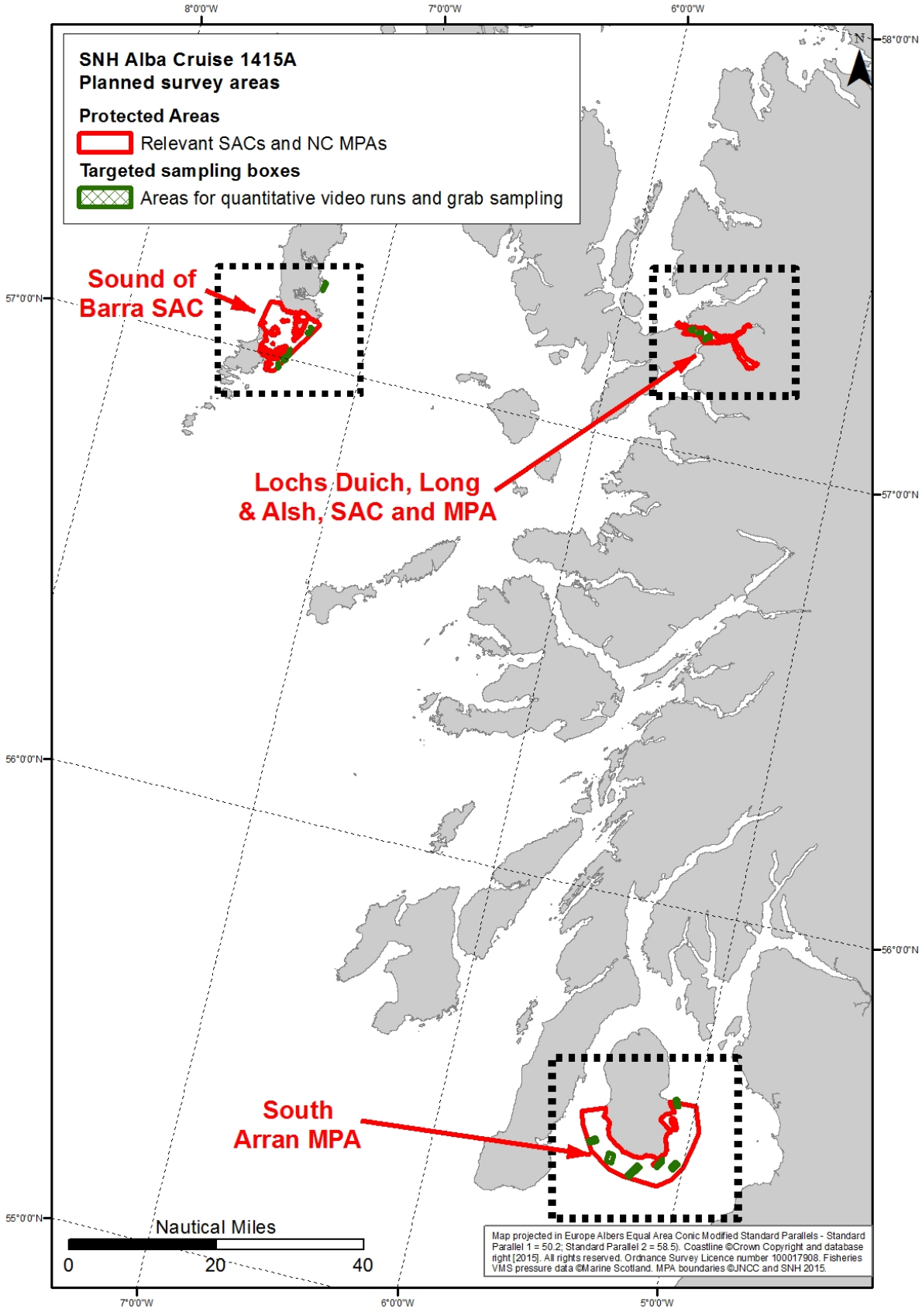

Figure 2: South Arran MPA sampling areas. Other sampling boxes completed already in 2015 not shown here).

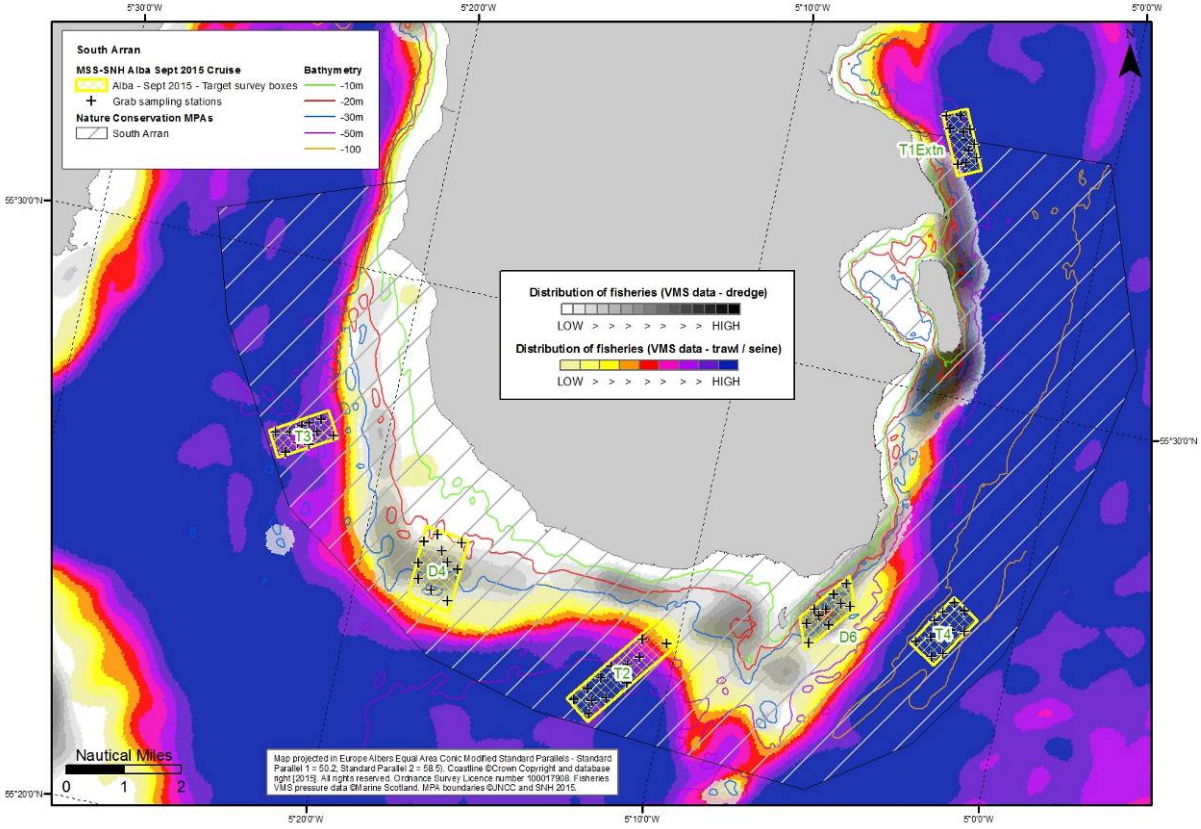

Figure 3: Sound of Barra SAC sampling areas. Possible reference area situated to north-east of the SAC.

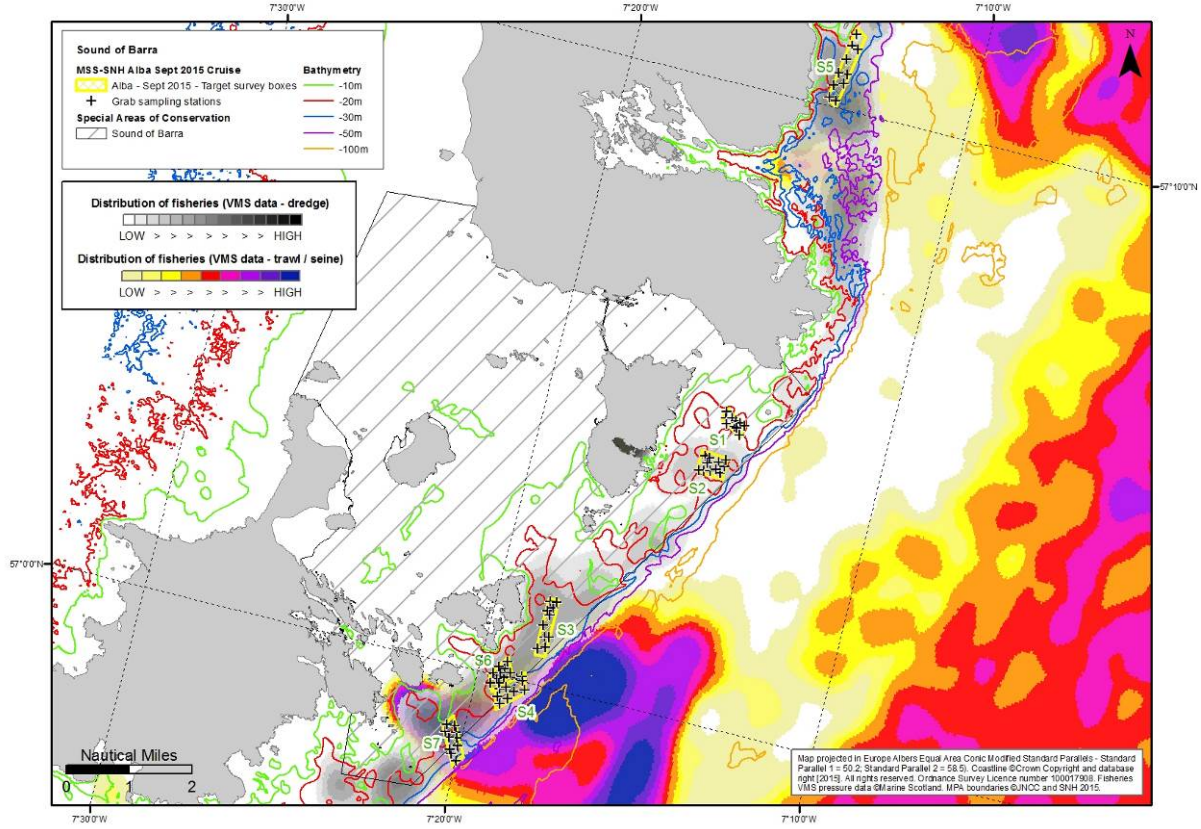

Figure 4: Lochs Duich, Long and Alsh SAC / MPA sampling areas.

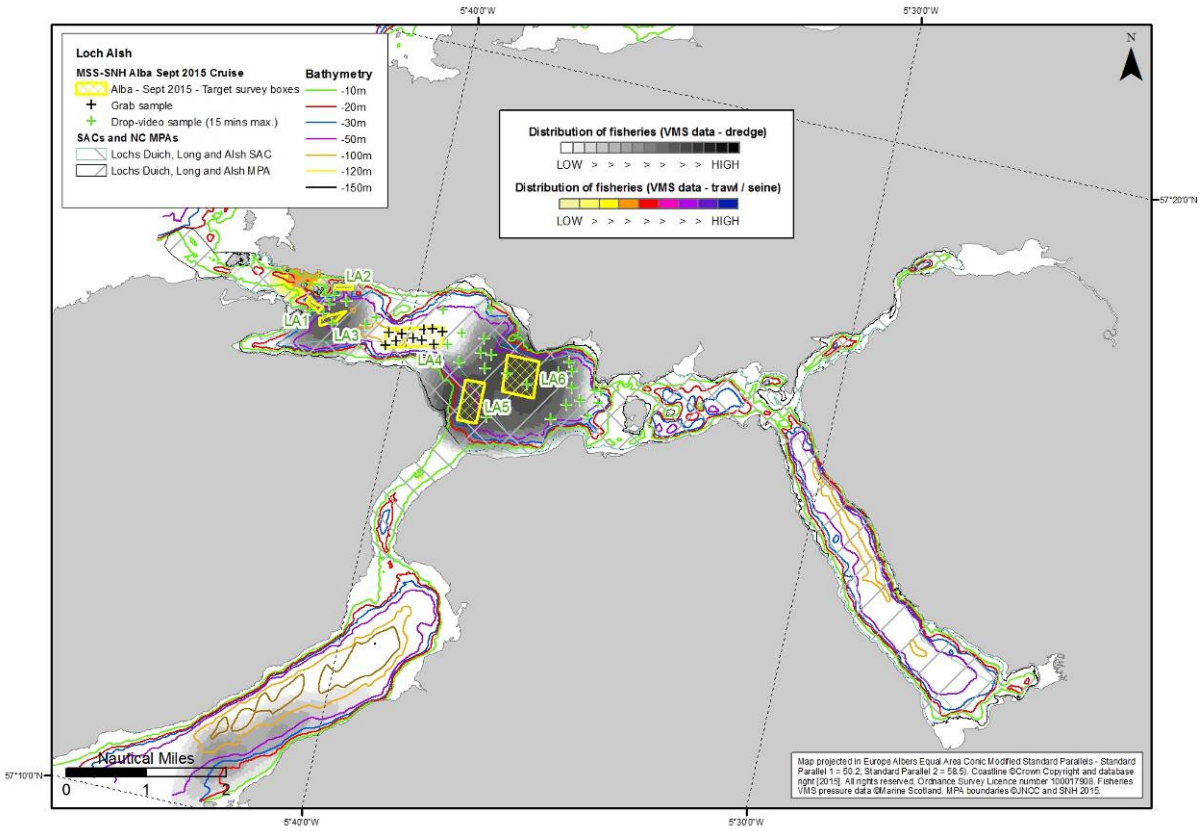

Figure 5: Lochs DLA sampling details on 2013 multibeam backdrop mapping.

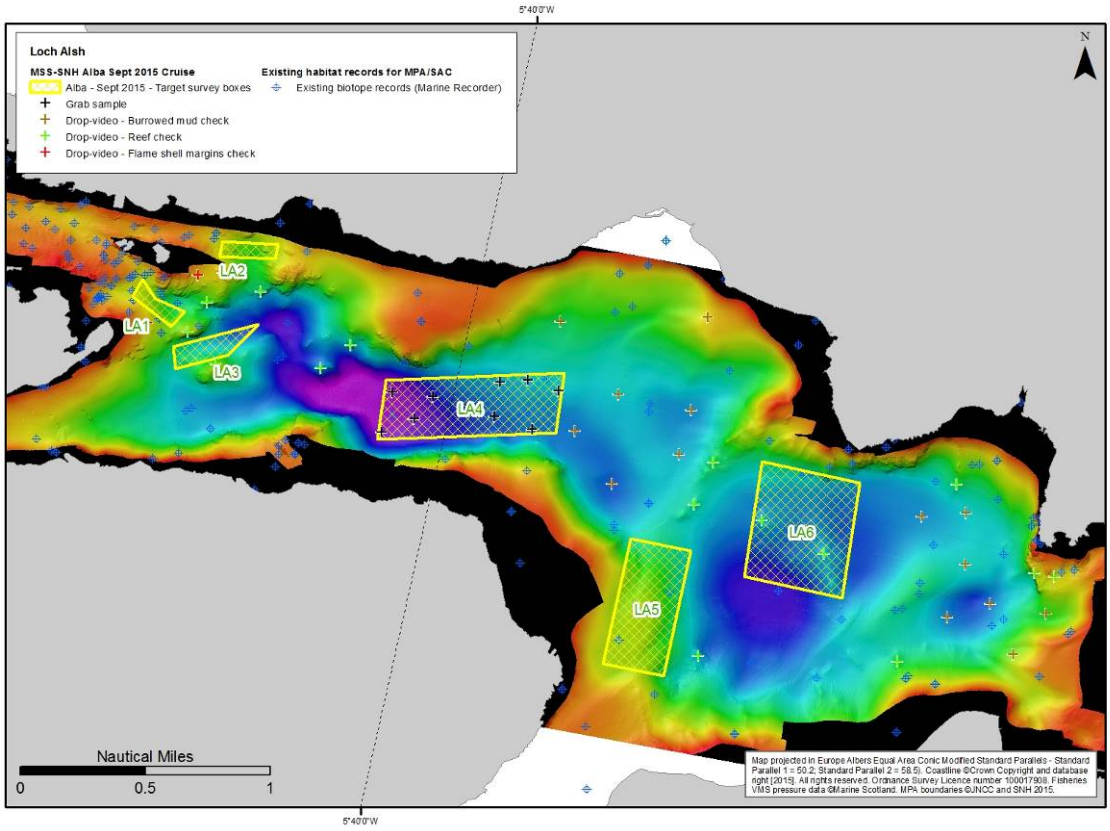

Table 1
Details of point sampling stations.

SNHRef	Latitude	Longitude	Notes
ARR_T1X_G09	55.57197727	-5.074780243	70-80m. H. In
ARR_T1X_G10	55.57595192	-5.078252352	70-80m. H. Out
ARR_T1X_G08	55.5699671	-5.076927468	60-70m. H. In
ARR_T1X_G07	55.56832242	-5.072039104	60-70m. H. In
ARR_T1X_G06	55.57485197	-5.081383061	60-70m. H. Out
ARR_T1X_G04	55.57491497	-5.088298229	50-60m. H. Out
ARR_T1X_G05	55.57916095	-5.084591131	50-60m. H. Out
ARR_T1X_G03	55.56640362	-5.076927468	50-60m. H. In
ARR_T1X_G02	55.56548991	-5.080673692	<50m. H. In
ARR_T1X_G01	55.57829701	-5.091573123	<50m. H. Out
ARR_T2_G01	55.3885406	-5.204913224	>50m. H. Out
ARR_T2_G02	55.39394125	-5.198186098	>50m. H. Out
ARR_T2_G03	55.3914778	-5.214009056	>50m. H. Out
ARR_T2_G04	55.39545723	-5.208513658	>50m. H. Out
ARR_T2_G05	55.39223579	-5.204913224	>50m. H. Out
ARR_T2_G06	55.39915241	-5.202828763	>50m. H. In
ARR_T2_G07	55.40474255	-5.191079979	>50m. H. In
ARR_T2_G08	55.3993419	-5.189564007	>50m. H. In
ARR_T2_G09	55.40114212	-5.194111923	>50m. H. In
ARR_T2_G10	55.40303709	-5.198944084	>50m. H. In
ARR_T2_G11	55.40730076	-5.185963574	40-50m. H. In
ARR_T2_G12	55.41260666	-5.186342567	40-50m. M. In
ARR_T2_G13	55.4128909	-5.173741049	40-50m. L. In
ARR_T3_G01	55.45078162	-5.362335505	30-40m. H. In
ARR_T3_G03	55.45288395	-5.375650251	30-40m. H. In
ARR_T3_G02	55.45466774	-5.369980335	30-40m. H. In
ARR_T3_G04	55.44683179	-5.373420509	30-40m. H. In
ARR_T3_G05	55.45084533	-5.370744818	30-40m. H. In
ARR_T3_G06	55.4432005	-5.383995858	30-40m. H. Out
ARR_T3_G07	55.44651326	-5.379217839	30-40m. H. Out
ARR_T3_G08	55.4514824	-5.378899304	30-40m. H. Out
ARR_T3_G09	55.44816964	-5.391449567	40-50m. H. Out
ARR_T3_G10	55.44908351	-5.384389431	40-50m. H. Out
ARR_T4_G01	55.42879582	-5.050302777	110-120m. H. In
ARR_T4_G02	55.4253819	-5.040959427	100-110m. H. In
ARR_T4_G03	55.43083219	-5.043415051	120m. H. In
ARR_T4_G04	55.43574344	-5.043295264	110-120m. H. In
ARR_T4_G05	55.43867821	-5.039941241	110-120m. H. In
ARR_T4_G06	55.43400654	-5.034011807	120m. H. Out
ARR_T4_G07	55.44191245	-5.035269566	100-110m. H. Out
ARR_T4_G08	55.42699902	-5.035509139	110-120m. H. Out
ARR_T4_G09	55.44035522	-5.029459919	110-120m. H. Out
ARR_T4_G10	55.43444777	-5.027225794	100-110m. H. Out

SNHRef	Latitude	Longitude	Notes
ARR_D4_G01	55.41144494	-5.287349598	30-40m. L. In
ARR_D4_G02	55.41340497	-5.296609065	30-40m. L. In
ARR_D4_G03	55.41577053	-5.304381611	30-40m. M. In
ARR_D4_G04	55.42029888	-5.306071295	20-30m. H. In
ARR_D4_G05	55.42090717	-5.285727502	20-30m. M. In
ARR_D4_G06	55.42225891	-5.291472427	20-30m. H. In
ARR_D4_G07	55.41942024	-5.29573043	20-30m. H. In
ARR_D4_G08	55.42665209	-5.305530596	20-30m. L. In
ARR_D4_G09	55.42955835	-5.299515322	20-30m. No. In
ARR_D4_G10	55.42867971	-5.28653855	20-30m. No. In
ARR_D4_G11	55.42523276	-5.295662843	20-30m. L. In
ARR_D6_G01	55.43010891	-5.101317328	20-30m. H. In
ARR_D6_G02	55.43235192	-5.098479243	20-30m. H. In
ARR_D6_G03	55.43697525	-5.096327792	20-30m. M. In
ARR_D6_G04	55.42699617	-5.106306864	20-30m. M. In
ARR_D6_G05	55.44082039	-5.090788949	30-40m. M. In
ARR_D6_G06	55.43161951	-5.104246964	20-30m. M. In
ARR_D6_G07	55.42809479	-5.095320729	30-40m. M. In
ARR_D6_G08	55.43486957	-5.091750236	30-40m. M. In
ARR_D6_G09	55.43459492	-5.086531822	30-40m. L. In
ARR_D6_G10	55.42182354	-5.103468779	30-40m. L. In
SOB_S1_G01	57.08182675	-7.248687791	20-30m. No. In
SOB_S1_G02	57.07997172	-7.248219856	20-30m. No. In
SOB_S1_G03	57.07866819	-7.24723385	20-30m. No. In
SOB_S1_G04	57.08042294	-7.24519499	20-30m. No. In
SOB_S1_G05	57.08003857	-7.243222979	20-30m. No. In
SOB_S1_G06	57.07838408	-7.243356674	20-30m. No. In
SOB_S1_G07	57.07963748	-7.24093344	20-30m. No. In
SOB_S1_G08	57.07821696	-7.242287109	20-30m. No. In
SOB_S1_G09	57.07646221	-7.239797026	20-30m. No. In
SOB_S1_G10	57.07920297	-7.238861156	20-30m. No. In
SOB_S2_G01	57.06910227	-7.253799602	20-30m. M. In
SOB_S2_G02	57.06516188	-7.252771674	20-30m. M. In
SOB_S2_G03	57.06877867	-7.251458212	20-30m. M. In
SOB_S2_G04	57.06824567	-7.24656604	20-30m. M. In
SOB_S2_G05	57.06563778	-7.244529221	20-30m. M. In
SOB_S2_G06	57.06757942	-7.243539366	20-30m. M. In
SOB_S2_G07	57.06919745	-7.243272866	20-30m. M. In
SOB_S2_G08	57.06493346	-7.255170171	20-30m. M. In
SOB_S2_G09	57.06558067	-7.249497536	20-30m. M. In
SOB_S2_G10	57.06620885	-7.247156146	20-30m. M. In
SOB_S2_G11	57.06733195	-7.252010247	20-30m. M. In
SOB_S3_G01	57.02199982	-7.309442309	20-30m. M. In
SOB_S3_G02	57.02041744	-7.307514686	20-30m. M. In
SOB_S3_G03	57.01926662	-7.309931408	20-30m. M. In
SOB_S3_G04	57.0184035	-7.308118866	20-30m. M. In

SNHRef	Latitude	Longitude	Notes
SOB_S3_G05	57.01535383	-7.310190342	20-30m. M. In
SOB_S3_G06	57.01239047	-7.308003784	20-30m. M. In
SOB_S3_G07	57.0126494	-7.306162472	20-30m. L. In
SOB_S3_G08	57.00899555	-7.309902637	20-30m. M. In
SOB_S3_G09	57.00994498	-7.306536489	20-30m. L. In
SOB_S3_G10	57.02214367	-7.306450177	20-30m. L. In
SOB_S4_G01	56.99635137	-7.322989315	25-30m. L. In
SOB_S4_G02	56.99421639	-7.32304203	20-25m. L. In
SOB_S4_G03	56.99252948	-7.321355129	20-25m. L. Out
SOB_S4_G04	56.99442725	-7.318323978	25-30m. L. Out
SOB_S4_G05	56.99666766	-7.31597813	25-30m. L. Out
SOB_S4_G06	56.99727389	-7.320221742	25-30m. L. In
SOB_S4_G07	57.00017326	-7.316452571	25-30m. L. In
SOB_S4_G08	57.00091128	-7.31402765	30-40m. L. In
SOB_S4_G9	56.99761655	-7.311181004	30-40m. L. Out
SOB_S4_G10	56.9997901	-7.313295487	30-40m. L. Out
SOB_S6_G01	57.00386024	-7.322668876	20-30m. M. In
SOB_S6_G02	57.00187689	-7.323230203	20-30m. M. In
SOB_S6_G03	57.00105361	-7.32003064	20-30m. M. In
SOB_S6_G04	56.99953802	-7.322275947	20-30m. M. In
SOB_S6_G05	57.00047357	-7.324596098	20-30m. M. In
SOB_S6_G06	56.99871474	-7.325550354	20-30m. M. In
SOB_S6_G07	57.0000058	-7.327945348	20-30m. M. In
SOB_S6_G10	56.9977792	-7.324034771	20-30m. L. In
SOB_S6_G09	57.00200786	-7.326205235	20-30m. L. In
SOB_S6_G08	56.99734885	-7.328057613	20-30m. L. In
SOB_S5_G01	57.18654328	-7.231668764	20-25m. L. Out
SOB_S5_G02	57.18327682	-7.232581449	20-25m. L. Out
SOB_S5_G03	57.18260432	-7.229266961	25-30m. L. Out
SOB_S5_G04	57.17943394	-7.233398062	25-30m. M. Out
SOB_S5_G05	57.17563909	-7.231428584	25-30m. M. Out
SOB_S5_G06	57.17309318	-7.231908945	25-30m. H. Out
SOB_S5_G07	57.17198835	-7.236520407	25-30m. H. Out
SOB_S5_G08	57.1681935	-7.233926459	30-40m. H. Out
SOB_S5_G09	57.16867386	-7.23733702	30-40m. H. Out
SOB_S5_G10	57.17539891	-7.235655757	25-30m. M. Out
SOB_S7_G01	56.97523434	-7.335111422	30-40m. L. Out
SOB_S7_G02	56.97671384	-7.338242445	25-30m. L. Out
SOB_S7_G03	56.97915672	-7.336418882	25-30m. L. Out
SOB_S7_G04	56.98245978	-7.338345665	25-30m. M. In
SOB_S7_G05	56.98101469	-7.337382274	25-30m. L. In
SOB_S7_G06	56.98073944	-7.341201433	20-25m. M. In
SOB_S7_G07	56.98393927	-7.339997193	20-25m. M. In
SOB_S7_G08	56.97774604	-7.339481091	20-25m. M. Out
SOB_S7_G09	56.98190927	-7.343506691	20-25m. M. In
SOB_S7_G10	56.98380165	-7.34385076	20-25m. M. In

SNHRef	Latitude	Longitude	Notes
DLA_LA4_G01	57.27127785	-5.675874981	100m. Uncl. In
DLA_LA4_G02	57.26986902	-5.672526132	100m. Uncl. In
DLA_LA4_G03	57.27158441	-5.670890949	90-100m. Uncl. In
DLA_LA4_G04	57.27121483	-5.666237482	70-80m. Uncl. In
DLA_LA4_G05	57.27347485	-5.663152386	70-80m. Uncl. In
DLA_LA4_G06	57.27115903	-5.662943162	80m. Uncl. In
DLA_LA4_G07	57.26850639	-5.67603665	100m. Uncl. In
DLA_LA4_G08	57.27402361	-5.659908482	60-70m. Uncl. In
DLA_LA4_G09	57.27091128	-5.658023949	60-70m. Uncl. In
DLA_LA4_G10	57.27379518	-5.655968094	70-80m. Uncl. In
DLA_LAG_V01	57.2709443	-5.60891246	60-70m. BM poly - subs check
DLA_LAG_V02	57.26629959	-5.598328618	80-90m. BM poly - subs check
DLA_LAG_V03	57.26477674	-5.603125611	70m. BM poly - subs check
DLA_LAG_V04	57.27181994	-5.603734753	60-70m. BM poly - subs check
DLA_LAG_V05	57.26846966	-5.602364183	70-80m. BM poly - subs check
DLA_LAG_V06	57.26645188	-5.591399627	50m. BM poly - subs check
DLA_LAG_V07	57.26333002	-5.594216909	30-50m. BM poly - subs check
DLA_LAG_V14	57.27831581	-5.657520948	50-60m. BM poly - subs check
DLA_LAG_V13	57.28071431	-5.63998908	20-30m. BM poly - subs check
DLA_LAG_V12	57.27443253	-5.648612246	70m. BM poly - subs check
DLA_LAG_V11	57.27448964	-5.639475116	70m. BM poly - subs check
DLA_LAG_V10	57.27140586	-5.639760651	70m. BM poly - subs check
DLA_LAG_V09	57.27140586	-5.652895276	70m. BM poly - subs check
DLA_LAG_V08	57.2685505	-5.646956141	70m. BM poly - subs check
DLA_LAG_V29	57.26894687	-5.591376865	20-30m. Reef check
DLA_LAG_V28	57.26893425	-5.593886998	30-50m. Reef check
DLA_LAG_V27	57.27351589	-5.605577581	50-60m. Reef check
DLA_LAG_V26	57.26115697	-5.60792135	50-60m. Reef check
DLA_LAG_V25	57.25866701	-5.632012452	60-70m. Reef check
DLA_LAG_V24	57.26835303	-5.627962419	70-80m. Reef check
DLA_LAG_V23	57.26709667	-5.619662859	70-80m. Reef check
DLA_LAG_V22	57.27143681	-5.635386337	50-60m. Reef check
DLA_LAG_V21	57.2683911	-5.63656655	60m. Reef check
DLA_LAG_V20	57.27371157	-5.682099916	70m. Reef check
DLA_LAG_V19	57.27176993	-5.685098037	80-90m. Reef check
DLA_LAG_V18	57.2743683	-5.700459837	50m. Reef check
DLA_LAG_V17	57.27051358	-5.697775805	50m. Reef check
DLA_LAG_V16	57.27585309	-5.694320827	60-70m. Reef check
DLA_LAG_V15	57.27221389	-5.702013147	50m. Reef check
DLA_LAG_V30	57.27651572	-5.699392545	20-30m. Reef check
DLA_LAG_V32	57.27599403	-5.702289067	20-30m. FS check
DLA_LAG_V31	57.27215644	-5.707146975	20-30m. FS check

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

MRV Alba na Mara

Survey 1415A

PROGRAMME AMENDMENT

The unloading port for survey 1415A will now be Mallaig.

I Gibb
08/09/2015