

**Final Report (Project Code): C5650**

# **Farnes East rMCZ Survey Report**

**Authors: Paul Whomersley, Sue Ware, Marc Whybrow and  
Ken May**

**Issue date: July 2012  
Publication date: January 2023**

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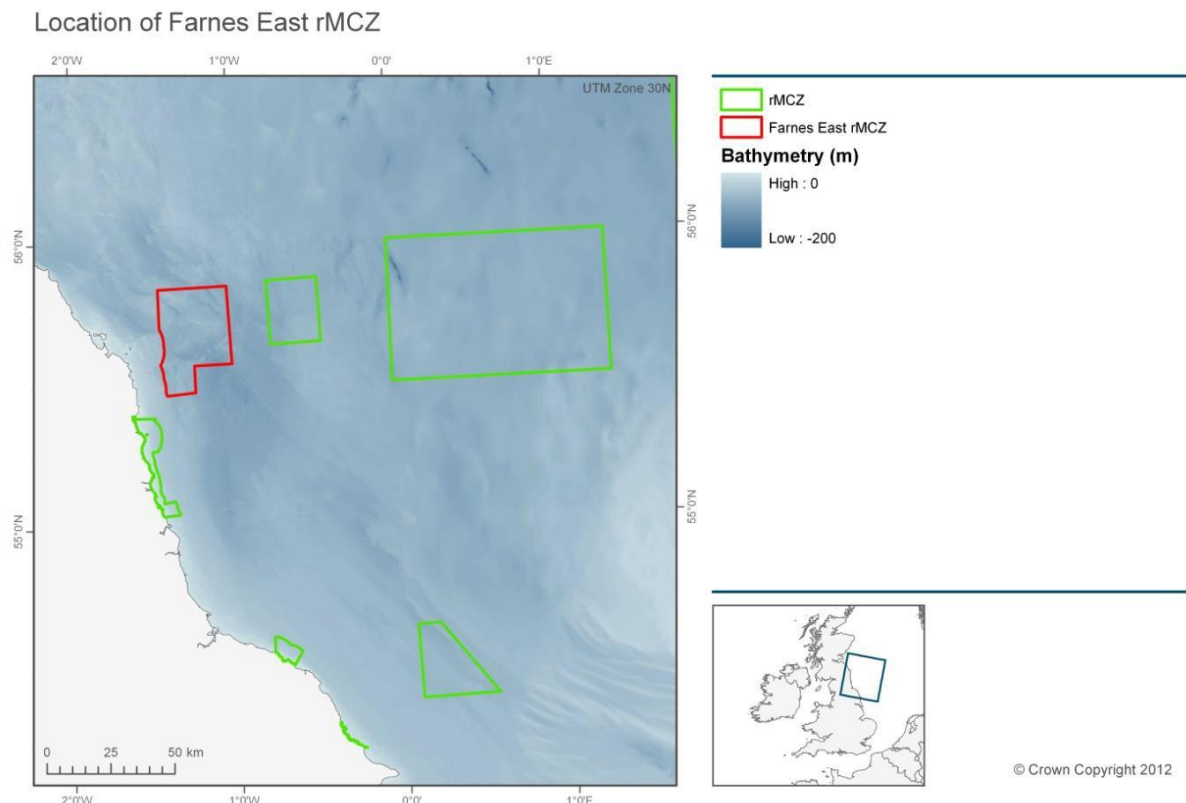
# 1 Background and Introduction

## 1.1 Survey Project Team

The Farnes East rMCZ survey was carried out during 9<sup>th</sup> – 13<sup>th</sup> March 2012 on the RV *CEFAS Endeavour* cruise CEND 04/12. The survey team for the duration of the fieldwork included Cefas marine ecologists, marine surveyors, marine modellers and GIS specialists along with MPA specialists from the JNCC.

## 1.2 Site Description

The Farnes East rMCZ is located in the North Sea approximately 11 Km off the Northumberland Coast; the depth range of the site is 30 – 100m (Figure 1). (For a detailed site description see Final recommendations for Marine Conservation Net Gain 2011)



**Figure 1. Location of Farnes East rMCZ [Bathymetry is from the Defra Digital Elevation Model (Astrium, 2011)].**

## 1.3 Geological and Biological Context

A number of Broad Scale Habitat (BSH) features and Features of Conservation Interest (FOCI) have been proposed for designation within the Farnes East rMCZ (Table 1).

**Table 1. Features proposed for designation within Farnes East rMCZ.**

Feature Type	Feature Name
<b>Broad Scale Habitat (BSH)</b>	A4.2 Moderate energy circalittoral rock
	A5.1 Subtidal coarse sediment
	A5.2 Subtidal sand
	A5.3 Subtidal mud
	A5.4 Subtidal mixed sediment
<b>Features of Conservation Interest (FOCI)</b>	
<b>Habitats</b>	Peat and clay exposures
<b>Species</b>	N/A
<b>Geomorphological Feature</b>	N/A

Additional habitat FOCI have been identified as being present in the proposed site but were not included in the recommendations for designation. No species FOCI have been listed (Table 2).

**Table 2. Features not proposed for designation within Farnes East rMCZ.**

Feature Type	Feature Name
Broad Scale Habitat (BSH)	N/A
Habitats	Subtidal sand and gravel modelled
Species	N/A

#### **1.4 Existing data and information utilised to inform survey planning**

Grab samples collected opportunistically by Cefas during the 2011 CSEMP programmes were utilised during the planning of this survey.

## **2 Survey Design and Methods**

### **2.1 Survey planning and design**

Selection and positioning of groundtruthing stations was informed the predicted broadscale habitats derived from the habitat map in the Site Assessment Document (SAD). Sampling stations were positioned within the sedimentary habitats using a triangular lattice grid overlaid on the predictive habitat map. Stations within the predicted moderate energy circalittoral rock (A4.2) were placed at a grid spacing of 4 km, while those within the subtidal sand (A5.2) and subtidal coarse sediment were placed at a grid spacing of 3.5 km. Stations on the small area of subtidal mixed sediment in the south of the rMCZ were manually placed and additional samples were placed in the reference area within the site (see Figure 4). Discrepancies between the broad scale habitat map and the SAD resulted in additional stations being added manually to ensure that a mud patch in the bottom southeast corner of the site was also sampled adequately. 'Intelligent' station codes were constructed, each with 3 elements; FE indicating the Farnes East site followed by a letter indicating the substrate type for that location according to the SAD (R for rock, C for coarse sediment, S for sand and Mx for mixed sediment), then a sequential number (e.g., FE\_R\_5, FE\_S\_21).

Within the predicted sedimentary habitats, the selection of stations where the camera sledge would be used in addition to the grab was informed by the sediment type present in the grab sample (i.e., where the grab sample confirmed the presence of a given sediment BSH the camera was deployed to allow characterisation of the surficial sediment types and epifaunal communities). The number of camera deployments per BSH varied depending on the uniformity of the habitat and its spatial extent.

There was no requirement for acoustic sampling (multibeam) as a full acoustic survey was being conducted at this site by an external contractor.

### **2.2 Sample collection and processing methods**

#### **2.2.1 Sedimentary Broad Scale Habitats**

Sedimentary habitats were groundtruthed by grab and underwater camera. The grab system comprised a 0.1 m<sup>2</sup> mini Hamon grab fitted with a video camera (Figure 2. Mini Hamon grab with video camera (HamCam).), the combined gear being known as a HamCam. This allowed an image of the undisturbed seabed surface to be obtained for each grab sample. On recovery, the grab was emptied into a large plastic bin and a representative sub-sample of sediment (approx. 0.5 litres) taken for Particle Size Analysis (PSA). The sample was stored in a labelled plastic container and frozen ready for transfer to a laboratory ashore.

The remaining sample was photographed and the volume of sediment measured and recorded. Benthic fauna were collected by washing the sample with sea-water over a 1mm

sieve. The retained >1mm fraction was transferred to a labelled container and preserved in 4% buffered formaldehyde for later analysis ashore.



**Figure 2. Mini Hamon grab with video camera (HamCam).**

The camera sledge system comprised a video camera with capability to also capture still images (Figure 3. Camera sledge with video and still imaging system). Illumination was provided by two Cefas high intensity LED striplights and a flash unit. The camera was fitted with a four-spot laser- scaling device to provide a reference scale in the video image. Set-up and operation followed the MESH 'Recommended Operating Guidelines (ROG) for underwater video and photographic imaging techniques'. Video was recorded simultaneously to a Sony GV-HD700 DV tape recorder and a computer hard drive. A video overlay was used to provide station metadata, time and GPS position (of the vessel) in the recorded video image.



**Figure 3. Camera sledge with video and still imaging system.**

Camera tows lasted a minimum of 10 minutes, with the sledge being towed at ~ 0.5 knots (~0.25 ms<sup>-1</sup>) across a 50 m 'bullring' centred on the sampling station. Stills images were captured at regular one-minute intervals and opportunistically if specific features of interest were encountered. The sledge was controlled by a winch operator with sight of the video monitor and note made of the amount of tow cable deployed to allow a 'lay back' to be applied to estimate the distance of the sledge behind the vessel.

### 3 Survey Narrative

Survey work commenced at the Farnes East rMCZ on 09/03/12 at 23:00. Hamon grab sampling commenced in the north-east of the site within the predicted sublittoral sand BSH. Sampling of the stations then continued gradually moving south through the site.

Images of the seabed observed during the deployment of the HamCam guided the positioning of subsequent camera sledge deployments. If the area was homogenous then camera deployments were carried out every third station to ensure an adequate density and spatial coverage of video and still images across the rMCZ. If the seabed was of a heterogeneous nature or different to the predicted habitat type, additional camera sledge deployments were carried out.

Samples were successfully collected from all the sampling stations except FE\_R\_36 and FE\_C\_29. The bivalve *Arctica islandica* (a species FOI not listed in the recommendations for designation at this site) was found to be present at station FE\_R\_22 in the centre of the site.

The survey of Farnes East was completed 09:30 13/03/12 and resulted in the successful collection of 100 Hamon grab samples and acquisition of video and still images at 36 camera stations.




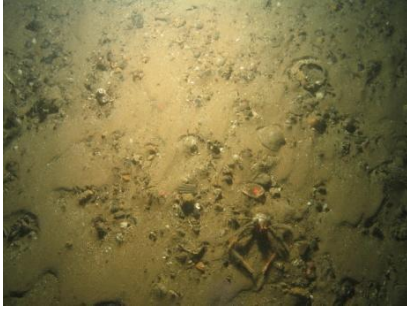


## 4 Preliminary Results

### 4.1 Acoustic Survey



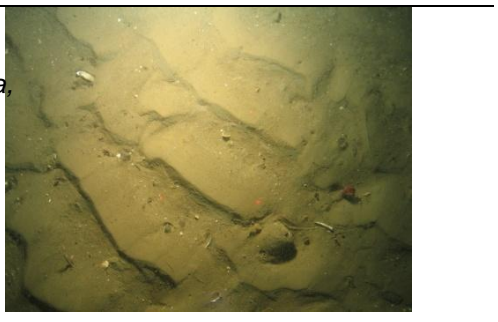
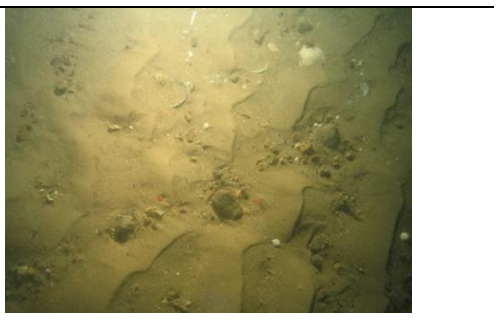

A full coverage multibeam acoustic survey of the Farnes East rMCZ site was carried out by sub- contractors (EGS Earth Sciences and Surveying) concurrently with the groundtruthing survey. Therefore, no additional ‘opportunistic’ acoustic data were acquired during the CEND 04/12 survey.

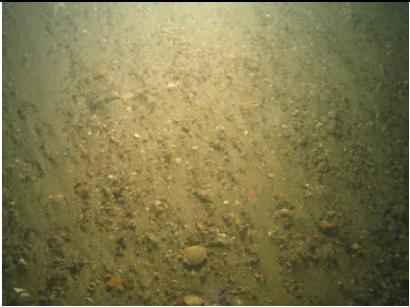

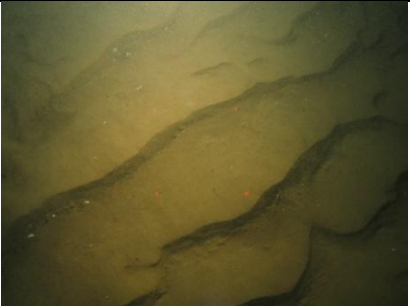
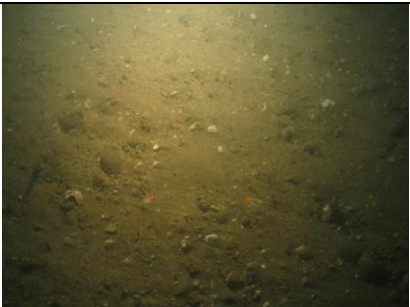

### 4.2 Seabed Imagery



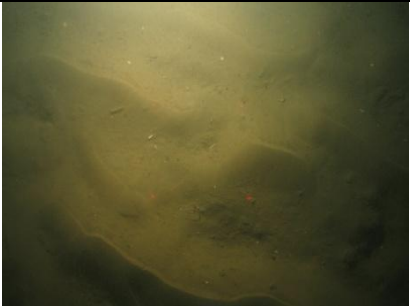


**Table 3. Preliminary summary of the seabed substrate and epifaunal communities observed in video and stills images.**

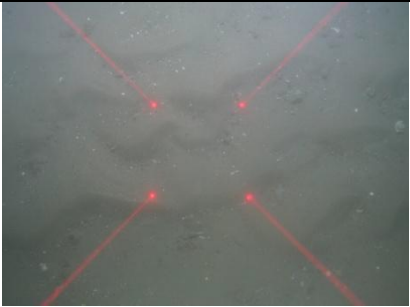

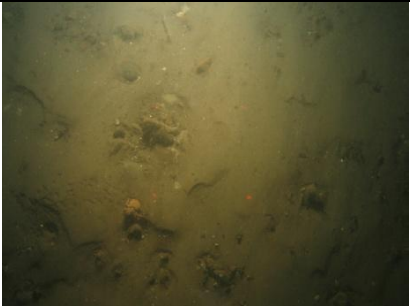
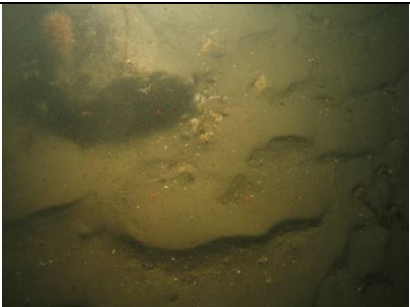

Stn Code	BSH Habitat/Faunal Summary	Still Image
FE_C_27	Gravelly shelly sand <i>Crossaster papposus</i> , <i>Munida rugosa</i> , <i>Pagurus</i> sp, <i>Liocarcinus</i> sp, <i>Flustra foliacea</i> , <i>Ammodytes</i> sp	
FE_C_20	Gravelly shelly sand <i>Munida rugosa</i> , <i>Pagurus</i> sp, <i>Liocarcinus</i> sp, <i>Ammodytes</i> sp	
FE_C_39	Gravelly shelly sand <i>Munida rugosa</i> , <i>Pagurus</i> sp, <i>Liocarcinus</i> sp, <i>Aequipecten opercularis</i> , <i>Sagartia</i> sp, <i>Pennatula phosphorea</i>	
FE_C_16	Gravelly shelly sand <i>Munida rugosa</i> , <i>Pagurus</i> sp	





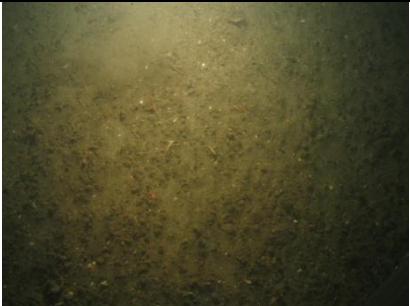


Stn Code	BSH Habitat/Faunal Summary	Still Image
FE_R_38	<p>Gravelly shelly sand  <i>Munida rugosa</i>, <i>Pagurus</i> sp, <i>Callionymus lyra</i>,  <i>Aequipecten opercularis</i></p>	
FE_R_37	<p>Gravelly shelly sand with occasional cobble  <i>Flustra foliacea</i>, <i>Nemertesia</i> sp, <i>Crangon</i>  <i>crangon</i>,</p>	
FE_S_19	<p>Slightly shelly sand  <i>Asterias rubens</i>, <i>Flustra foliacea</i>, <i>Pennatula</i>  <i>phosphorea</i>, <i>Nemertesia</i> sp, <i>Myxine glutinosa</i>,  <i>Limanda limanda</i></p>	
FE_S_17	<p>Gravelly shelly sand  <i>Asterias rubens</i>, <i>Flustra foliacea</i>, <i>Crossaster</i>  <i>papposus</i>, <i>Agonus cataphractus</i></p>	
FE_R_35	<p>Gravelly sand with occasional coble and  boulder  <i>Munida rugosa</i>, <i>Pagurus</i> sp,  <i>Callionymus lyra</i>,  <i>Aequipecten opercularis</i>,  <i>Agonus cataphractus</i></p>	

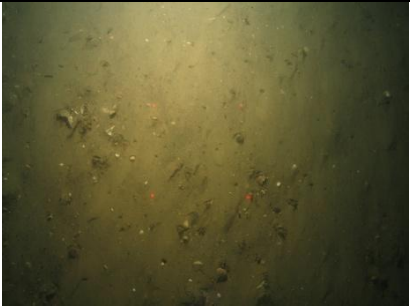

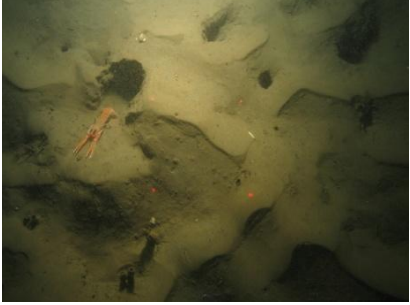
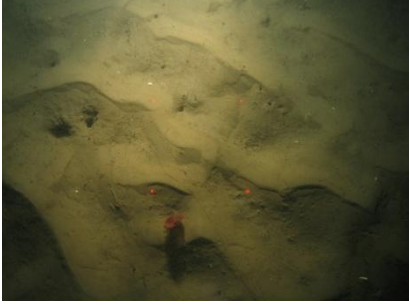

Stn Code	BSH Habitat/Faunal Summary	Still Image
FE_C_4	Gravelly shelly sand with occasional cobble <i>Munida rugosa</i> , <i>Agonus cataphractus</i> , <i>Asterias rubens</i> , <i>Liocarcinus</i> sp, <i>Urticina</i> sp.	
FE_R_31	Gravelly sand with occasional cobble <i>Munida rugosa</i> , <i>Agonus cataphractus</i> , <i>Asterias rubens</i> , <i>Liocarcinus</i> sp, <i>Urticina</i> sp	
FE_R_23	Slightly shelly sand <i>Pagurus</i> sp	
FE_R_26	Gravelly shelly sand with occasional cobble <i>Munida rugosa</i> , <i>Cancer pagurus</i> , <i>Asterias rubens</i> , <i>Flustra foliacea</i> , <i>Callionymus lyra</i> , <i>Liocarcinus</i> sp.	
FE_C_03	Sandy gravel with cobbles and occasional boulder <i>Nemertesia</i> sp, <i>Pagurus</i> sp, <i>Pecten maximus</i> , <i>Crossaster papposus</i>	

Stn Code	BSH Habitat/Faunal Summary	Still Image
FE_C_28	Shelly sand <i>Crossaster papposus</i> , <i>Crangon crangon</i> , <i>Ophiura ophiura</i> , <i>Munida rugosa</i>	
FE_R_22	Shelly sand with occasional cobble <i>Flustra foliacea</i> , <i>Munida rugosa</i> , <i>Pagurus</i> sp, <i>Nemertesia</i> sp	
FE_S_23	Muddy sand <i>Nephrops norvegicus</i> , <i>Myxine glutinosa</i>	
FE_R_10	Shelly sand with cobbles, slate <i>Pecten maximus</i> , <i>Munida rugosa</i> , <i>Pagurus</i> sp, <i>Asterias rubens</i>	
FE_R_09	Shelly sand with occasional cobble <i>Munida rugosa</i> , <i>Crossaster papposus</i> , <i>Aequipecten opercularis</i> , <i>Liocarcinus</i> sp	

Stn Code	BSH Habitat/Faunal Summary	Still Image
FE_R_05	<p>Muddy shelly sand  <i>Munida rugosa</i>, <i>Alcyonium digitatum</i>, <i>Pecten maximus</i></p>	
FE_R_07	<p>Gravelly shelly sand  <i>Maja squinado</i>, <i>Pagurus</i> sp,  <i>Crangon crangon</i></p>	
FE_R_04	<p>Gravelly shelly sand with occasional cobble,  <i>Munida rugosa</i>, <i>Asterias rubens</i>, <i>Pagurus</i>                      sp, <i>Callionymus lyra</i></p>	
FE_Mx_02	<p>Shelly gravelly sand with occasional cobble  <i>Munida rugosa</i>, <i>Macropodia</i> sp  <i>Asterias rubens</i>, <i>Nemertesia</i> sp</p>	
FE_R_01	<p>Gravelly shelly sand with cobbles and boulders  <i>Munida rugosa</i>, <i>Alcyonium digitatum</i>,  <i>Macropodia</i> sp, <i>Asterias rubens</i>, <i>Limanda</i></p>	



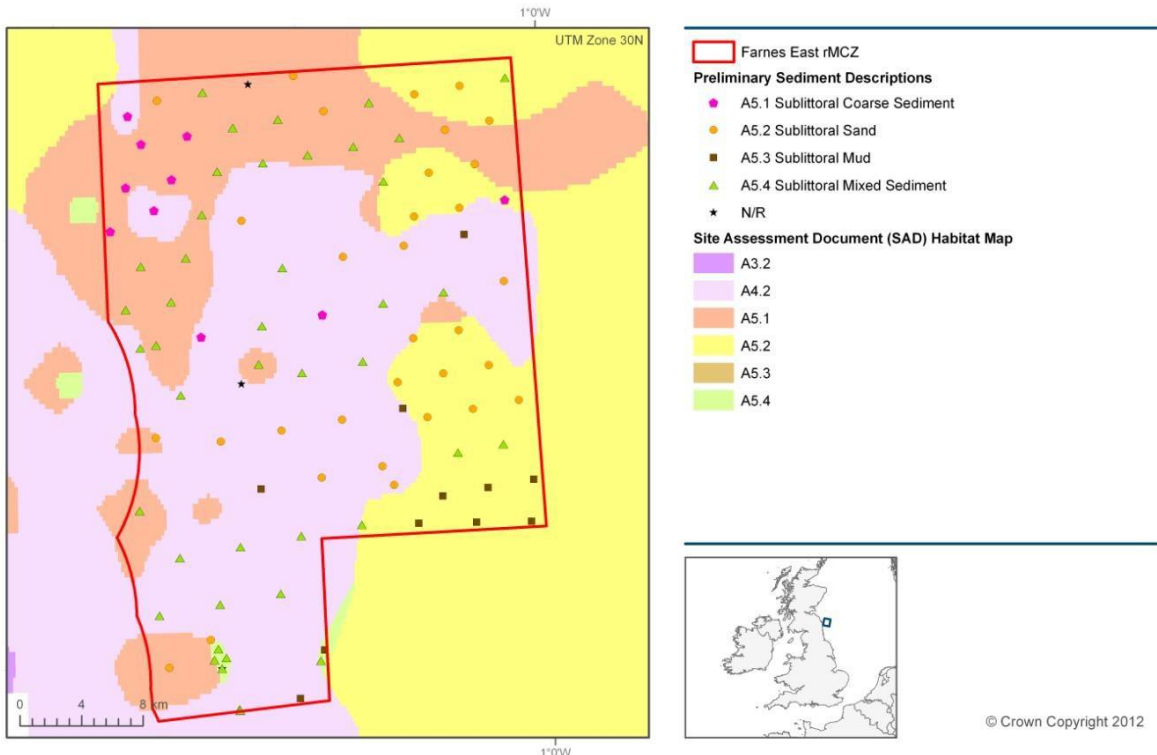
Stn Code	BSH Habitat/Faunal Summary	Still Image
FE_Mx_06	<p>Shelly sand</p> <p><i>Pagurus sp</i>, <i>Flustra foliacea</i>, <i>Liocarcinus sp</i>, <i>Ophiura ophiura</i>, <i>Nemertesia sp</i>, <i>Agonus cataphractus</i></p>	
FE_C_1	<p>Shelly sand</p> <p><i>Pagurus sp</i>, <i>Asterias rubens</i>, <i>Ammodytes sp</i>, <i>Alcyonium digitatum</i></p>	
FE_C_02	<p>Gravelly shelly sand</p> <p><i>Munida rugosa</i>, <i>Liocarcinus sp</i>, <i>Pagurus sp</i></p>	
FE_R_12	<p>Shelly sand</p> <p><i>Munida rugosa</i>, <i>Liocarcinus sp</i>, <i>Pagurus sp</i></p>	
FE_R_16	<p>Shelly sand</p> <p><i>Munida rugosa</i>, <i>Liocarcinus sp</i>, <i>Pagurus sp</i>, <i>Stichastrella rosea</i></p>	

Stn Code	BSH Habitat/Faunal Summary	Still Image
FE_R_14	Gravelly, shelly, muddy sand <i>Pagurus</i> sp, <i>Munida rugosa</i> , <i>Urticina felina</i>	
FE_R_40	Shelly gravelly muddy sand <i>Pagurus</i> sp, <i>Munida rugosa</i> , <i>Urticina felina</i> , <i>Liocarcinus</i> sp, <i>Myxine glutinosa</i>	
FE_S_02	Muddy sand <i>Nephrops norvegicus</i> , <i>Pagurus</i> sp, <i>Pennatulaphosphorea</i>	
FE_S_25	Muddy sand <i>Pennatula phosphorea</i> , <i>Nephrops norvegicus</i>	
FE_S_07	Gravelly shelly sand with occasional cobbles <i>Pagurus</i> sp, <i>Asterias rubens</i> , <i>Aequipecten opercularis</i>	

**4.3 Grab samples and sediment types**

Preliminary observations of the spatial distribution of sediment types (EUNIS Level 3) for each grab sample are presented in Figure 4. It should be emphasised that this assignment of EUNIS classification is purely subjective and could change as a result of subsequent laboratory analysis and interpretation.

Preliminary Sediment Descriptions



**Figure 4. Predicted habitat map overlaid with preliminary observations of sediment type, as determined by visual assessment of grab samples (N/R = Indicates samples where the field surveyor could not confidently assign a sediment classification based only on observation).**

**4.4 Preliminary observations of Features of Conservation Interest (FOCI)**

The ocean quahog, *Arctica Islandica*, was found in grab samples collected during this survey (CEND 04/12). Although not listed as a species FOCI in the proposals for designation of this rMCZ, it is listed as a species FOCI in the Ecological Network Guidance (ENG).



## 5 Annexes

### 5.1 *RV Cefas Endeavour*



<b>Port of registry</b>	Lowestoft
<b>Length OA</b>	73.00 m (excluding stern roller)
<b>Length extreme</b>	73.916 m
<b>Breadth (MLD)</b>	15.80 m
<b>Depth (MLD)</b>	8.20 m
<b>Design draft</b>	5.00 m
<b>Deep draught</b>	5.50 m
<b>LBP</b>	66.50 m
<b>Gross tonnage</b>	2983 tonnes
<b>Net register tonnage</b>	894 tonnes
<b>Net lightship</b>	2436 tonnes
<b>Deadweight @ 5.00 m</b>	784 tonnes
<b>Deadweight @ 5.50 m</b>	1244 tonnes
<b>Displacement @ 5.00 m</b>	3210 tonnes
<b>Displacement @ 5.50 m</b>	3680 tonnes
<b>Builder</b>	Ferguson Shipbuilders Limited, Port Glasgow
<b>Commissioned</b>	2003
<b>Communications</b>	In port BT Tel. Cellphone Voice/Fax/Data Radio TELEX Inmarsat C Fleet 77 (Inmarsat F) and VSAT (eutelsat) internet access
<b>Endurance</b>	42 days
<b>Complement</b>	En-suite accommodation for 16 crew and 19 scientists with dedicated hospital facility
<b>Propulsion System</b>	AC/DC Diesel Electric 3 x diesel electric AC generators, individually raft mounted 2 xtandom electric DC motors Single screw
<b>Power generation</b>	3240 Kw
<b>Power propulsion</b>	2230 Kw
<b>Thrusters</b>	Bow thruster (flush mounted azimuthing) Stern thruster (tunnel)
<b>Trial speed</b>	14.4 knots

<b>Bollard pull</b>	29 tonnes
<b>Call sign</b>	VQHF3
<b>Official number</b>	906938
<b>MMSI</b>	235005270
<b>Lloyds/IMO number</b>	9251107
<b>Side Gantry</b>	7.5 tonne articulated side A-frame
<b>Stern Gantry</b>	25 tonne stern A-frame
<b>Winches</b>	3 x cranes 35 tM, heave compensated 2 x trawl winches 2 x drum winches, (1 double) Double barrel survey winch with motion compensation and slip rings Double barrel survey winch with slip rings Double barrel towing winch with slip rings Side-scan sonarwinch with slip rings 3 x Gilson winches (one fitted to stern A-frame)
<b>Transducers/Sea tube</b>	Drop keel to deploy transducers outside the hull boundary layer in addition to hull mounted transducers 1.2 m diameter sea tube/moon-pool
<b>Acoustic equipment</b>	Kongsberg Simrad: HiPAP 500 positioning sonar EK60, 38/120 kHz scientific sounder EA 600, 50/200 kHz scientific sounder Scanmar net mensuration system SH80 high frequency omni-directional sonar EM3002 swathe bathymetry sounder Hull mounted Scanmar fishing computer transducers
<b>Boats</b>	2 x 8m rigid work and rescue boats with suite of navigational equipment deployed on heave-compensated davits
<b>Laboratories</b>	8 networked laboratories designed for optimum flexibility of purpose 4 serviced deck locations for containerised laboratories
<b>Special features</b>	Dynamic positioning system Interling anti-roll system Local Area Network with scientific data management system Ship-wide general information system CCTV
<b>Class</b>	LRS 100A1+LMC UMS SCM CCS ICC IP ES(2) DP(CM) ICE class 2

## 5.2 **Camera sledge and Drop Camera**

Flash model: Kongsberg 11-242

Underwater lights – Cefas high power LED strip lights

Video and stills camera settings variable depending on underwater visibility and ambient light levels.

## 5.3 **Positioning Software-Tower**

Vessel offsets are defined from the pitch roll centre of the vessel – the Common Reference Point (CRP) used by the Tower CEMAP software to calculate offsets.

## 5.4 **Multibeam Bathymetry**

Model: Kongsberg EM3002D

Frequency: 300kHz; swathe width variable running in hi res equidistant mode

Latency correction not determined – 1pps synchronised time system utilised on vessel.

### 5.5 Metadata

Station metadata for the Farnes East rMCZ survey on cruise CEND 04/12 are provided below. (NB. Stn No is a sequential event number for the cruise, so changes each time a new gear is used or a new location is sampled. Stn Code is used to identify the location of the sampling station. HC=HamCam, CS=Camera Sledge.

**Gearcodes:** CTD = Conductivity temperature & depth profiler. MB= multibeam. HC = Ham Cam. CS = Camera Sledge.

Cruise	Date	Stn No.	Stn Code	Gear	Latitude	Longitude
CEND 04/12	09/03/2012	235	FE_S_22	HC	55.83823	-1.03271
CEND 04/12	10/03/2012	236	FE_S_21	HC	55.83413	-1.07994
CEND 04/12	10/03/2012	237	FE_5_20	HC	55.82989	-1.12712
CEND 04/12	10/03/2012	238	FE_C_23	HC	55.82577	-1.17442
CEND 04/12	10/03/2012	239	FE_C_22	HC	55.82145	-1.22167
CEND 04/12	10/03/2012	241	FE_C_27	HC	55.84248	-1.25225
CEND 04/12	10/03/2012	242	FE_C_27	CS	55.84174	-1.25043
CEND 04/12	10/03/2012	242	FE_C_27	CS	55.84210	-1.25190
CEND 04/12	10/03/2012	243	FE_C_21	HC	55.81735	-1.26916
CEND 04/12	10/03/2012	244	FE_C_26	HC	55.83828	-1.29937
CEND 04/12	10/03/2012	245	FE_R_20	HC	55.81321	-1.31613
CEND 04/12	10/03/2012	246	FE_R_20	CS	55.81268	-1.31506
CEND 04/12	10/03/2012	246	FE_C_20	CS	55.81327	-1.31674
CEND 04/12	10/03/2012	247	FE_C_25	HC	55.83418	-1.34665
CEND 04/12	10/03/2012	248	FE_C_18	HC	55.80901	-1.36360
CEND 04/12	10/03/2012	249	FE_C_24	HC	55.82994	-1.39407
CEND 04/12	10/03/2012	250	FE_R_39	HC	55.82135	-1.42476
CEND 04/12	10/03/2012	251	FE_R_39	CS	55.82128	-1.42367
CEND 04/12	10/03/2012	251	FE_R_39	CS	55.82123	-1.42586
CEND 04/12	10/03/2012	252	FE_C_16	CS	55.80513	-1.40927
CEND 04/12	10/03/2012	252	FE_C_16	CS	55.80467	-1.41120
CEND 04/12	10/03/2012	253	FE_C_16	HC	55.80482	-1.41142
CEND 04/12	10/03/2012	254	FE_C_10	HC	55.77967	-1.42839
CEND 04/12	10/03/2012	255	FE_C_8	HC	55.75439	-1.44538
CEND 04/12	16/03/2012	256	FE_R_38	HC	55.76610	-1.39971
CEND 04/12	10/03/2012	257	FE_R_38	CS	55.76690	-1.39731
CEND 04/12	10/03/2012	257	FE_R_38	CS	55.76628	-1.39899
CEND 04/12	10/03/2012	258	FE_C_11	HC	55.78385	-1.38067
CEND 04/12	10/03/2012	259	FE_C_9	HC	55.76283	-1.35031
CEND 04/12	10/03/2012	260	FE_C_13	HC	55.78791	-1.33330
CEND 04/12	10/03/2012	261	FE_R_37	HC	55.79224	-1.28593
CEND 04/12	10/03/2012	262	FE_R_37	CS	55.79161	-1.28487
CEND 04/12	10/03/2012	262	FE_R_37	CS	55.79218	-1.28645
CEND 04/12	10/03/2012	263	FE_C_14	HC	55.79620	-1.23916
CEND 04/12	10/03/2012	264	FE_C_15	HC	55.80037	-1.19169
CEND 04/12	10/03/2012	265	FE_C_17	HC	55.80489	-1.14372
CEND 04/12	10/03/2012	266	FE_C_19	HC	55.80874	-1.09661

Cruise	Date	Stn No.	Stn Code	Gear	Latitude	Longitude
CEND 04/12	10/03/2012	267	FE_S_19	CS	55.81283	-1.04851
CEND 04/12	10/03/2012	268	FE_S_19	HC	55.81325	-1.05015
CEND 04/12	10/03/2012	269	FE_C_12	HC	55.78817	-1.06661
CEND 04/12	10/03/2012	270	FE_S_18	HC	55.78403	-1.11429
CEND 04/12	10/03/2012	271	FE_S_17	HC	55.77982	-1.16160
CEND 04/12	10/03/2012	272	FE_S_17	CS	55.78050	-1.15856
CEND 04/12	10/03/2012	272	FE_S_17	CS	55.78004	-1.16072
CEND 04/12	10/03/2012	273	FE_R_36	HC	55.76437	-1.24587
CEND 04/12	10/03/2012	274	FE_R_35	HC	55.75878	-1.30937
CEND 04/12	10/03/2012	275	FE_R_35	CS	55.76017	-1.30876
CEND 04/12	10/03/2012	275	FE_R_35	CS	55.75914	-1.30903
CEND 04/12	10/03/2012	276	FE_C_7	HC	55.73789	-1.36787
CEND 04/12	10/03/2012	277	FE_C_06	HC	55.73354	-1.41464
CEND 04/12	11/03/2012	278	FE_C_4	HC	55.70849	-1.43135
CEND 04/12	11/03/2012	279	FE_C_04	CS	55.70943	-1.43179
CEND 04/12	11/03/2012	279	FE_C_04	CS	55.70859	-1.43132
CEND 04/12	11/03/2012	280	FE_C_05	HC	55.71253	-1.38426
CEND 04/12	11/03/2012	281	FE_R_30	HC	55.72528	-1.33098
CEND 04/12	11/03/2012	282	FE_R_31	HC	55.73076	-1.26829
CEND 04/12	11/03/2012	283	FE_R_31	CS	55.73082	-1.26675
CEND 04/12	11/03/2012	283	FE_R_31	CS	55.73072	-1.26829
CEND 04/12	11/03/2012	284	FE_R_32	HC	55.73635	-1.20547
CEND 04/12	11/03/2012	285	FE_R_33	HC	55.74188	-1.14234
CEND 04/12	11/03/2012	286	FE_S_14	HC	55.75873	-1.13085
CEND 04/12	11/03/2012	288	FE_S_15	HC	55.76302	-1.08384
CEND 04/12	11/03/2012	289	FE_S_16	HC	55.76715	-1.03653
CEND 04/12	11/03/2012	290	FE_R_34	HC	55.74760	-1.07945
CEND 04/12	11/03/2012	291	FE_R_34	CS	55.74734	-1.07792
CEND 04/12	11/03/2012	291	FE_R_34	CS	55.74744	-1.07873
CEND 04/12	11/03/2012	292	FE_R_29	HC	55.71965	-1.03984
CEND 04/12	11/03/2012	293	FE_R_29	CS	55.72045	-1.03896
CEND 04/12	11/03/2012	293	FE_R_29	CS	55.71960	-1.03974
CEND 04/12	11/03/2012	294	FE_R_28	HC	55.71418	-1.10247
CEND 04/12	11/03/2012	295	FE_R_27	HC	55.70291	-1.19746
CEND 04/12	11/03/2012	296	FE_R_27	HC	55.70857	-1.16524
CEND 04/12	11/03/2012	297	FE_R_26	CS	55.70335	-1.22733
CEND 04/12	11/03/2012	297	FE_R_26	CS	55.70260	-1.22846
CEND 04/12	11/03/2012	298	FE_R_25	HC	55.69731	-1.29082
CEND 04/12	11/03/2012	299	FE_R_24	HC	55.69165	-1.35392
CEND 04/12	11/03/2012	300	FE_C_3	HC	55.68757	-1.40064
CEND 04/12	11/03/2012	301	FE_C_03	CS	55.68691	-1.39832
CEND 04/12	11/03/2012	301	FE_C_03	CS	55.68726	-1.39972
CEND 04/12	11/03/2012	302	FE_R_23	HC	55.68599	-1.41698
CEND 04/12	11/03/2012	303	FE_R_19	HC	55.65808	-1.37641
CEND 04/12	11/03/2012	304	FE_R_20	HC	55.66385	-1.31363

Cruise	Date	Stn No.	Stn Code	Gear	Latitude	Longitude
CEND 04/12	11/03/2012	305	FE_C_28	HC	55.67495	-1.29522
CEND 04/12	11/03/2012	306	FE_C_28	CS	55.67404	-1.29355
CEND 04/12	11/03/2012	306	FE_C_28	CS	55.67455	-1.29471
CEND 04/12	11/03/2012	307	FE_R_21	HC	55.66942	-1.25068
CEND 04/12	11/03/2012	308	FE_R_22	HC	55.67515	-1.18764
CEND 04/12	11/03/2012	309	FE_R_22	CS	55.67467	-1.18661
CEND 04/12	11/03/2012	309	FE_R_22	CS	55.67509	-1.18778
CEND 04/12	11/03/2012	310	FE_S_12	HC	55.68781	-1.13513
CEND 04/12	11/03/2012	311	FE_S_13	HC	55.69181	-1.08785
CEND 04/12	11/03/2012	312	FE_S_10	HC	55.66684	-1.10500
CEND 04/12	11/03/2012	313	FE_S_11	HC	55.67100	-1.05791
CEND 04/12	11/03/2012	314	FE_S_8	HC	55.65018	-1.02784
CEND 04/12	11/03/2012	315	FE_S_07	HC	55.64571	-1.07533
CEND 04/12	11/03/2012	316	FE_S_06	HC	55.64159	-1.12252
CEND 04/12	11/03/2012	317	FE_R_18	HC	55.64722	-1.14766
CEND 04/12	11/03/2012	318	FE_S_09	HC	55.66241	-1.15241
CEND 04/12	12/03/2012	319	FE_R_17	HC	55.64143	-1.21078
CEND 04/12	12/03/2012	320	FE_R_16	HC	55.63606	-1.27352
CEND 04/12	12/03/2012	321	FE_R_15	HC	55.63047	-1.33616
CEND 04/12	12/03/2012	322	FE_C_30	HC	55.63336	-1.40296
CEND 04/12	12/03/2012	323	FE_C_02	HC	55.59114	-1.42156
CEND 04/12	12/03/2012	324	FE_C_29	HC	55.59278	-1.34888
CEND 04/12	12/03/2012	324	FE_C_29	HC	55.59280	-1.34879
CEND 04/12	12/03/2012	324	FE_C_29	HC	55.59283	-1.34874
CEND 04/12	12/03/2012	325	FE_R_12	HC	55.60243	-1.29583
CEND 04/12	12/03/2012	326	FE_R_13	HC	55.60804	-1.23316
CEND 04/12	12/03/2012	327	FE_R_14	HC	55.61370	-1.17027
CEND 04/12	12/03/2012	328	FE_R_40	HC	55.60268	-1.15871
CEND 04/12	12/03/2012	329	FE_S_4	HC	55.62051	-1.09194
CEND 04/12	12/03/2012	329	FE_S_4	HC	55.62055	-1.09199
CEND 04/12	12/03/2012	330	FE_S_05	HC	55.62472	-1.04488
CEND 04/12	12/03/2012	331	FE_S_02	HC	55.59974	-1.06211
CEND 04/12	12/03/2012	332	FE_S_3	HC	55.60382	-1.01474
CEND 04/12	12/03/2012	332	FE_S_3	HC	55.60379	-1.01470
CEND 04/12	12/03/2012	333	FE_S_25	HC	55.57938	-1.01831
CEND 04/12	12/03/2012	334	FE_S_24	HC	55.57982	-1.07489
CEND 04/12	12/03/2012	335	FE_S_01	HC	55.59560	-1.10889
CEND 04/12	12/03/2012	336	FE_S_23	HC	55.58011	-1.13438
CEND 04/12	12/03/2012	337	FE_S_23	CS	55.57898	-1.13364
CEND 04/12	12/03/2012	337	FE_S_23	CS	55.58001	-1.13453
CEND 04/12	12/03/2012	338	FE_R_11	HC	55.58010	-1.19303
CEND 04/12	12/03/2012	339	FE_R_10	CS	55.57597	-1.25632
CEND 04/12	12/03/2012	340	FE_R_10	HC	55.57439	-1.25576
CEND 04/12	12/03/2012	341	FE_R_09	HC	55.56892	-1.31855
CEND 04/12	12/03/2012	342	FE_R_09	CS	55.56997	-1.31876

Cruise	Date	Stn No.	Stn Code	Gear	Latitude	Longitude
CEND 04/12	12/03/2012	342	FE_R_09	CS	55.56923	-1.31848
CEND 04/12	12/03/2012	343	FE_R_08	HC	55.56329	-1.38113
CEND 04/12	12/03/2012	344	FE_R_05	HC	55.52989	-1.40352
CEND 04/12	12/03/2012	345	FE_R_05	CS	55.53047	-1.40355
CEND 04/12	12/03/2012	345	FE_R_05	CS	55.52944	-1.40314
CEND 04/12	12/03/2012	346	FE_R_06	HC	55.53550	-1.34088
CEND 04/12	12/03/2012	347	FE_R_07	HC	55.54106	-1.27835
CEND 04/12	12/03/2012	348	FE_R_07	CS	55.54056	-1.27807
CEND 04/12	12/03/2012	348	FE_R_07	CS	55.51294	-1.23807
CEND 04/12	12/03/2012	349	FE_R_04	HC	55.51294	-1.23807
CEND 04/12	12/03/2012	350	FE_R_04	CS	55.51246	-1.23718
CEND 04/12	12/03/2012	350	FE_R_04	CS	55.51332	-1.23834
CEND 04/12	12/03/2012	351	FE_Mx_05	HC	55.50764	-1.23450
CEND 04/12	12/03/2012	352	FE_Mx_02	HC	55.50134	-1.23892
CEND 04/12	12/03/2012	353	FE_Mx_02	CS	55.50084	-1.23845
CEND 04/12	12/03/2012	353	FE_Mx_02	CS	55.50164	-1.23900
CEND 04/12	12/03/2012	354	FE_R_02	HC	55.47977	-1.26068
CEND 04/12	12/03/2012	355	FE_R_01	HC	55.47427	-1.32342
CEND 04/12	12/02/2012	356	FE_R_01	CS	55.47309	-1.32236
CEND 04/12	12/02/2012	356	FE_R_01	CS	55.47352	-1.32275
CEND 04/12	12/03/2012	357	FE_R_03	HC	55.50739	-1.30077
CEND 04/12	12/03/2012	358	FE_Mx_01	HC	55.49833	-1.34050
CEND 04/12	12/03/2012	359	FE_Mx_01	CS	55.49983	-1.34059
CEND 04/12	12/03/2012	359	FE_Mx_01	CS	55.49901	-1.34046
CEND 04/12	12/03/2012	360	FE_Mx_03	HC	55.50336	-1.34812
CEND 04/12	12/03/2012	361	FE_Mx_04	HC	55.50439	-1.33582
CEND 04/12	12/03/2012	362	FE_Mx_06	HC	55.50966	-1.34383
CEND 04/12	12/03/2012	363	FE_Mx_06	CS	55.51144	-1.34521
CEND 04/12	12/03/2012	363	FE_Mx_06	CS	55.51140	-1.34516
CEND 04/12	13/03/2012	364	FE_Mx_07	HC	55.51496	-1.35127
CEND 04/12	13/03/2012	365	FE_C_1	HC	55.49923	-1.39480
CEND 04/12	13/03/2012	366	FE_C_1	CS	55.50007	-1.39473
CEND 04/12	13/03/2012	366	FE_C_1	CS	55.49924	-1.39456
CEND 04/12	13/03/2012	367	FE_C_02	CS	55.59167	-1.42161
CEND 04/12	13/03/2012	367	FE_C_02	CS	55.59089	-1.42103
CEND 04/12	13/03/2012	368	FE_R_12	CS	55.60259	-1.29680
CEND 04/12	13/03/2012	368	FE_R_12	CS	55.60220	-1.29541
CEND 04/12	13/03/2012	369	FE-R_16	CS	55.63495	-1.27302
CEND 04/12	13/03/2012	369	FE-R_16	CS	55.63573	-1.27354
CEND 04/12	13/03/2012	370	FE_R_14	CS	55.61273	-1.16914
CEND 04/12	13/03/2012	370	FE_R_14	CS	55.60223	-1.15832
CEND 04/12	13/03/2012	371	FE_R_40	CS	55.60226	-1.15838
CEND 04/12	13/03/2012	371	FE_R_40	CS	55.60292	-1.15921
CEND 04/12	13/03/2012	372	FE_S_02	CS	55.59846	-1.06054
CEND 04/12	13/03/2012	372	FE_S_02	CS	55.59921	-1.06137

Cruise	Date	Stn No.	Stn Code	Gear	Latitude	Longitude
CEND 04/12	13/03/2012	373	FE_S_25	CS	55.57841	-1.01693
CEND 04/12	13/03/2012	373	FE_S_25	CS	55.57909	-1.01802
CEND 04/12	13/03/2012	374	FE_S_07	CS	55.64522	-1.07455
CEND 04/12	13/03/2012	374	FE_S_07	CS	55.64586	-1.07564



## 5.6 Daily Progress Reports

**DAILY LOG  
STATUS REPORT  
Name of Area Survey  
Rv Cefas Endeavour – JNCC – DPR No. 36 – Friday 9<sup>th</sup> March 2012**

Vessel: RV Cefas Endeavour GSM : 07799 773456	Project: MCZ Site Verification CEND 3/12 Satellite Voice Bridge: 00 870 (or 00871) 763998027
Daily Progress Report No. 36 Date: 9 <sup>th</sup> Mar. 2012	Location at 24:00: 55° 50.0 N, 001° 04.8 W

To Company:	Person:	E-mail:
Cefas		
JNCC		
JNCC		
JNCC		
JNCC		
Cefas		

**Safety**

	Today	To Date
Accidents/Incidents	0	0
Near Misses	0	0
Safety Drills/Induction	0	1
Additional comments:		

**Summary of operations 0000-2400**

Time UTC (start)	Time UTC (end)	Type	Comments
00:00	00:11	ToSa	Hamon grab (0.1m2) RU_C_12
00:00	00:19	ToSa	Hamon grab (0.1m2) RU_C_12
00:00	00:26	ToSa	Hamon grab (0.1m2) RU_C_12
00:11	01:00	ToSa	Hamon grab (0.1m2) RU_C_11
01:00	01:27	ToSa	Hamon grab (0.1m2) RU_C_17
01:27	01:33	ToSa	Hamon grab (0.1m2) RU_C_17
01:33	03:20	Equipment/Downtime	Camera sledge RU_C_17 CS abandoned due to water ingress
03:20	03:21	ToSa	Hamon grab (0.1m2) RU_S_20
03:21	03:31	ToSa	Hamon grab (0.1m2) RU_S_20 took second attempt
03:31	04:08	ToSa	Hamon grab (0.1m2) RU_C_14
04:08	04:13	ToSa	Hamon grab (0.1m2) RU_C_14
04:13	04:24	ToSa	Hamon grab (0.1m2) RU_C_14 HC used as video
04:24	04:59	ToSa	Hamon grab (0.1m2) RU_C_13
04:59	05:21	ToSa	Hamon grab (0.1m2) RU_C_4
05:21	05:26	ToSa	Hamon grab (0.1m2) RU_C_4
05:26	05:34	ToSa	Hamon grab (0.1m2) RU_C_4 HC used as video
05:34	06:06	ToSa	Hamon grab (0.1m2) RU_S_19
06:06	06:39	ToSa	Hamon grab (0.1m2) RU_S_18
06:39	07:12	ToSa	Hamon grab (0.1m2) RU_S_21
07:12	08:13	ToSa	Hamon grab (0.1m2) RU_S_22
08:13	08:18	ToSa	Hamon grab (0.1m2) RU_S_22
08:18	08:52	ToSa	Hamon grab (0.1m2) RU_C_15
08:52	08:58	ToSa	Hamon grab (0.1m2) RU_C_15
08:58	10:50	Equipment/Downtime	Camera sledge Issues with camera coms
10:50	11:05	ToSa	Camera sledge RU_C_15 Too much tide washed suspended sediment to see, tow stopped early
11:05	11:42	ToSa	Hamon grab (0.1m2) RU_C_16

**DAILY  
LOG  
STATUS  
REPORT**

Time UTC (start)	Time UTC (end)	Type	Comments
11:42	12:37	ToSa	Hamon grab (0.1m2) RU S 23
12:37	13:00	Ship/Plant Downtime	Crew stopped for lunch
13:00	13:10	ToSa	Hamon grab /0.1m2) RU S 28
13:10	13:43	ToSa	Hamon grab /0.1m2) RU S 27
13:43	14:14	ToSa	Hamon grab (0.1m2) RU S 26
14:14	14:45	ToSa	Hamon grab (0.1m2) RU_C_21 Three Samples (First used)
14:45	15:13	ToSa	Camera sledge RU_C_21 Tow cut short due to boulders
15:13	15:46	ToSa	Hamon grab (0.1m2) RU S 25
15:46	16:17	ToSa	Hamon grab /0.1m2) RU S 24
16:17	17:20	Equipment/ Downtime	Issues with camera corns
17:20	17:58	ToSa	Camera sledge RU S 24
17:58	19:24	ToSa	Camera sledge RU S 18
19:24	20:26	ToSa	Camera sledge RU_C_17 Long steam to station, camera deployed - video feed issues developed
20:26	21:10	Equipment/ Downtime	Camera sledge Investigating video sled issues.
21:10	21:30	ToSa	Camera sledge RU_C_17 Video redeployed, snapshot camera stopped working after a couple of shots (possible controller software issue). Continued for 5mins with video only.
21:30	23:25	Transit	Transit to Farnes East Site. Last sled station abandoned (RU_S_28) due to technical uncertainties and to keep on schedule.
23:25	23:30	Offshore Calibrations	CTD
23:30	23:37	ToSa	Hamon grab (0.1m2) FE_S_22 No sled - diagnostics being carried out
23:37	24:00	ToSa	Hamon grab (0.1m2) FE_S_21 Sample taken after 24:00

**Weather**

Weather/ seastate conditions	0000-0600	0600-1200	1200-1800	1800-2400	Remarks
Wind	S7	SW6	SW 7	W 5	
Sea state	Moderate	Moderate	Moderate	Moderate	
Swell	Moderate	Moderate	Moderate	Moderate	
Vis	Good	Good	Good	Good	
Baro	1035	1034	1034	1036	

**Overall Progress**

Type	Today (hh:mm)	Accum (hh:mm)	Remarks
Mob/Demob		09:43	
Offshore calibrations	00:05	00:47	
Total Operation Survey (TOSu)		09:43	
Total Operation Sampling (TOSa)		06:03	
Equipment/Downtime	16:11	06:03	Camera Sled Issues
Ship/Plant Downtime	05:26	07:26	

**DAILY  
LOG  
STATUS  
REPORT**

Type	Today (hh:mm)	Accum (hh:mm)	Remarks
Waiting On Weather	00:23	00:59	
Transit		07:41	
Standby Port	01:55	22:30	
Others			
Total:		00:24	

**Overall Progress Geophysical Data Acquisition MBES/Sidescan**

Segment/Area/Line	Today (Lkm)	Accum. (Lkm)	Current estimated total (Lkm)	Remarks
<b>Acoustic: Multibeam</b>				
Multibeam EM3000D/ EM2040	0	516		Working in existing multibeamed area.

**Overall Progress Groundtruthing Samples**

Action	Today (Lkmsamples)	Accum. (Lkmsamples)	Remarks
Hamon grab (0.1m' )	23	1	
Drop camera	0	1	
Camera sledge	4	56	

**Weather forecast for the next 24 hours**

West or southwest, veering northwest later, 3 or 4. Smooth or slight. Occasional rain later in south. Moderate or good.

Planned operation for the next 24 hours (00:00 to 24:00 on 10<sup>th</sup> March 2012) | Continue with Farnes East sampling.

Agreed changes to Scope/Survey operation priorities \_\_\_\_\_

\_\_\_\_\_

**CEFAS/JNCC comments**

\_\_\_\_\_

\_\_\_\_\_

CEFAS SIC .. [REDACTED] ..... JNCC Rep: ..... [REDACTED] .....

**DAILY  
LOG  
STATUS  
REPORT**

**Name of Area Survey  
Rv Cefas Endeavour-JNCC - DPR No. 37 - Saturday 10<sup>th</sup>  
March 2012**

Vessel: RV Cefas Endeavour GSM : 07799 773456	Project: MCZ Site Verification CEND 3/12 Satellite Voice Bridge: 00 870 (or 00871) 763998027
Daily Prooress Report No. 37 Date: 10 <sup>th</sup> Mar. 2012	Location at 24:00: 55° 43.1 N, 001° 25.7 W

To Company:	Person:	E-mail:
Cefas		
JNCC		
JNCC		
JNCC		
JNCC		
Cefas		

**Safety**

	Today	To Date
Accidents/Incidents	0	0
Near Misses	0	0
Safety Drills/Induction	0	1
Additional comments:		

**Summary of operations 0000-2400**

Time UTC (start)	Time UTC (end)	Type	Comments
00:00	00:08	ToSa	Hamon grab (0.1m2) FE S 21
00:08	00:43	ToSa	Hamon orab (0.1m2) FE S 20
00:43	01:10	ToSa	Hamon grab (0.1m2) FE C 23
01:10	01:44	ToSa	Hamon grab (0.1m2) FE C 22
01:44	02:11	Equipment/Downtime	Camera sledge FE C 22 Camera Fault
02:11	02:40	ToSa	Hamon orab (0.1m2) FE C 27
02:40	03:10	ToSa	Camera sledge FE C 27
03:10	03:49	ToSa	Hamon arab (0.1m2) FE C 21
03:49	04:41	ToSa	Hamon grab (0.1m2) FE C 26
04:41	05:06	ToSa	Hamon grab (0.1m2) FE C 20
05:06	05:33	ToSa	Camera sledae FE C 20
05:33	06:01	ToSa	Hamon orab (0.1m2) FE C 25
06:01	06:28	ToSa	Hamon grab (0.1m2) FE C 18
06:28	06:50	ToSa	Hamon grab (0.1m2) FE C 24
06:50	07:12	ToSa	Hamon grab (0.1m2) FE R 39
07:12	08:26	ToSa	Camera sledae FE R 39
08:26	09:14	ToSa	Camera sledae FE C 16
09:14	09:51	ToSa	Hamon grab (0.1m2) FE C 16 first try no sample
09:51	10:25	ToSa	Hamon grab (0.1m2) FE C 10
10:25	10:54	ToSa	Hamon orab (0.1m2) FE C 8
10:54	11:21	ToSa	Hamon grab (0.1m2) FE R 38
11:21	11:52	ToSa	Camera sledae FE R 38
11:52	12:39	ToSa	Hamon grab (0.1m2) FE C 11
12:39	13:08	ToSa	Hamon grab (0.1m2) FE C 09
13:08	13:38	ToSa	Hamon arab (0.1m2) FE C 13
13:38	14:05	ToSa	Hamon orab (0.1m2) FE R 37
14:05	14:35	ToSa	Camera sledge FE R 37
14:35	15:10	ToSa	Hamon grab (0.1m2) FE C 14

**DAILY  
LOG  
STATUS  
REPORT**

Time UTC (start)	Time UTC (end)	Type	Comments
15:10	15:40	ToSa	Hamon grab (0.1m2) FE_C_15 One Artica islandican - damaged in grab
15:40	16:05	Equipment/Downtime	Sled camera software issues
16:05	16:11	ToSa	Hamon arab /0.1m2) FE C 17
16:11	17:00	Equipment/Downtime	Camera sledge Sled camera software issues
17:00	17:32	ToSa	Hamon arab /0.1m2) FE C 19
17:32	18:30	ToSa	Camera sledge FE_S_19 No Video recorded -system working okay though
18:30	18:44	ToSa	Hamon grab (0.1m2) FE S 19
18:44	19:14	ToSa	Hamon grab (0.1m2) FE C 12
19:14	19:46	ToSa	Hamon grab (0.1m2) FE S 18 Two attempts
19:46	20:12	ToSa	Hamon arab /0.1m2) FE S 17
20:12	20:42	ToSa	Camera sledge FE S 17
20:42	21:39	ToSa	Hamon grab (0.1m2) FE_R_36 Three attempts. Jaws kept open mv rocks each time.
21:39	22:11	ToSa	Hamon grab (0.1m2) FE R 35
22:11	22:43	ToSa	Camera sledge FE R 35
22:43	23:19	ToSa	Hamon grab (0.1m2) FE C 07
23:19	23:46	ToSa	Hamon arab /0.1m2) FE C 06
23:46	23:59	ToSa	Hamon grab (0.1m2) FE_C_04 Grab taken after 24:00

**Weather**

Weather/sea state conditions	0000-0600	0600-1200	1200-1800	1800-2400	Remarks
Wind	W 6	W 7	W 5	W 5	
Sea state	Slight	Moderate	Slight	Smooth	
Swell	Slight	Moderate	Slight	Smooth	
Vis	Good	Good	Good	Good	
Baro	1038	1040	1040	1044	

**Overall Progress**

Type	Today (hh:mm)	Accum (hh:mm)	Remarks
Mob/Demob		08:26	
Offshore calibrations		00:47	
Total Operation Survey (TOSul)		09:43	
Total Operation Sampling (TOSa)	22:19	17:37	
Equipment/Downtime	01:41	04:04	
Ship/Plant Downtime		00:36	
Waiting On Weather		09:36	
Transit		20:35	
Standby Port			
Others		00:24	
<b>Total:</b>	<b>24:00:00</b>	<b>183:59:00</b>	

**DAILY  
LOG  
STATUS  
REPORT**

**Overall Progress Geophysical Data Acquisition MBES/Sidescan**

Segment/Area/Line	Today (Lkm)	Accum. (Lkm)	Current estimated total (Lkm)	Remarks
<b>Acoustic: Multibeam</b>				
Multibeam EM3000D/ EM2040	0	516		Working in existing multibeamed area.

**Overall Progress Groundtruthing Samples**

Action	Today (Lkm/samples)	Accum. (Lkm/samples)	Remarks
Hamon grab (0.1m )	31	165	
Drop camera	0	1	
Camera sledge	9	70	

Weather forecast for the next 24 hours \_\_\_\_\_

West or northwest 3 or 4. Smooth or slight. Fair. Moderate or Good. \_\_\_\_\_

Planned operation for the next 24 hours (00:00 to 24:00 on 11<sup>th</sup> March 2012) | Continue to sample at Farnes East. \_\_\_\_\_

Agreed changes to Scope/Survey operation priorities \_\_\_\_\_

**CEFAS/JNCC comments**

CEFAS SIC... [REDACTED] ..... JNCCRep: ..... [REDACTED] .....

**5.7 Fisheries Liaison officer (FLO) Report**

No Fisheries Liaison Officer was on board, but no fishing activity was observed during the survey (CEND 04/12) within the Farnes East rMCZ during survey CEND 04/12.

## About us

Cefas is a multi-disciplinary scientific research and consultancy centre providing a comprehensive range of services in fisheries management, environmental monitoring and assessment, and aquaculture to a large number of clients worldwide.

We have more than 500 staff based in 2 laboratories, our own ocean-going research vessel, and over 100 years of fisheries experience.

We have a long and successful track record in delivering high-quality services to clients in a confidential and impartial manner.

([www.cefas.defra.gov.uk](http://www.cefas.defra.gov.uk))

Cefas Technology Limited (CTL) is a wholly owned subsidiary of Cefas specialising in the application of Cefas technology to specific customer needs in a cost-effective and focussed manner.

CTL systems and services are developed by teams that are experienced in fisheries, environmental management and aquaculture, and in working closely with clients to ensure that their needs are fully met.

([www.cefastechnology.co.uk](http://www.cefastechnology.co.uk))

## Customer focus

With our unique facilities and our breadth of expertise in environmental and fisheries management, we can rapidly put together a multi-disciplinary team of experienced specialists, fully supported by our comprehensive in-house resources.

Our existing customers are drawn from a broad spectrum with wide ranging interests. Clients include:

- international and UK government departments
- the European Commission
- the World Bank
- Food and Agriculture Organisation of the United Nations (FAO)
- oil, water, chemical, pharmaceutical, agro-chemical, aggregate and marine industries
- non-governmental and environmental organisations
- regulators and enforcement agencies
- local authorities and other public bodies

We also work successfully in partnership with other organisations, operate in international consortia and have several joint ventures commercialising our intellectual property

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