

**CENTRE FOR ENVIRONMENT, FISHERIES AND AQUACULTURE SCIENCE
LOWESTOFT LABORATORY, SUFFOLK, NR33 0HT**

2015 RESEARCH VESSEL PROGRAMME

**PROGRAMME: Ship name: Cefas Endeavour
Survey: CEND 2315.**

STAFF:

Chris Jenkins – Cefas– SIC (**SiC Cabin**)
Alan Judd– Alan Judd Partnership– MDAC expert (**B1**)
Bryony Silburn – Cefas – Data manager (**C5**)
Koen Vanstaen – Cefas – Seabed mapper (**C7**)
Boomer technician (Names TBC) (**C8**)
Boomer technician (Names TBC) (**C8**)
Finfun Peters BVI representative (**C7**)

Day Shift:

Simeon Archer – Cefas – Shift lead, GIS/data, acoustic processor & MMO (**C6**)
Marc Whybrow – Cefas – MIST (**D3**)
Sue Ware – Cefas – Benthic ecologist (**C4**)
Neil Golding – JNCC – JNCC lead (**B2**)
Alice Cornthwaite – JNCC – Site lead (**D6**)

Night Shift

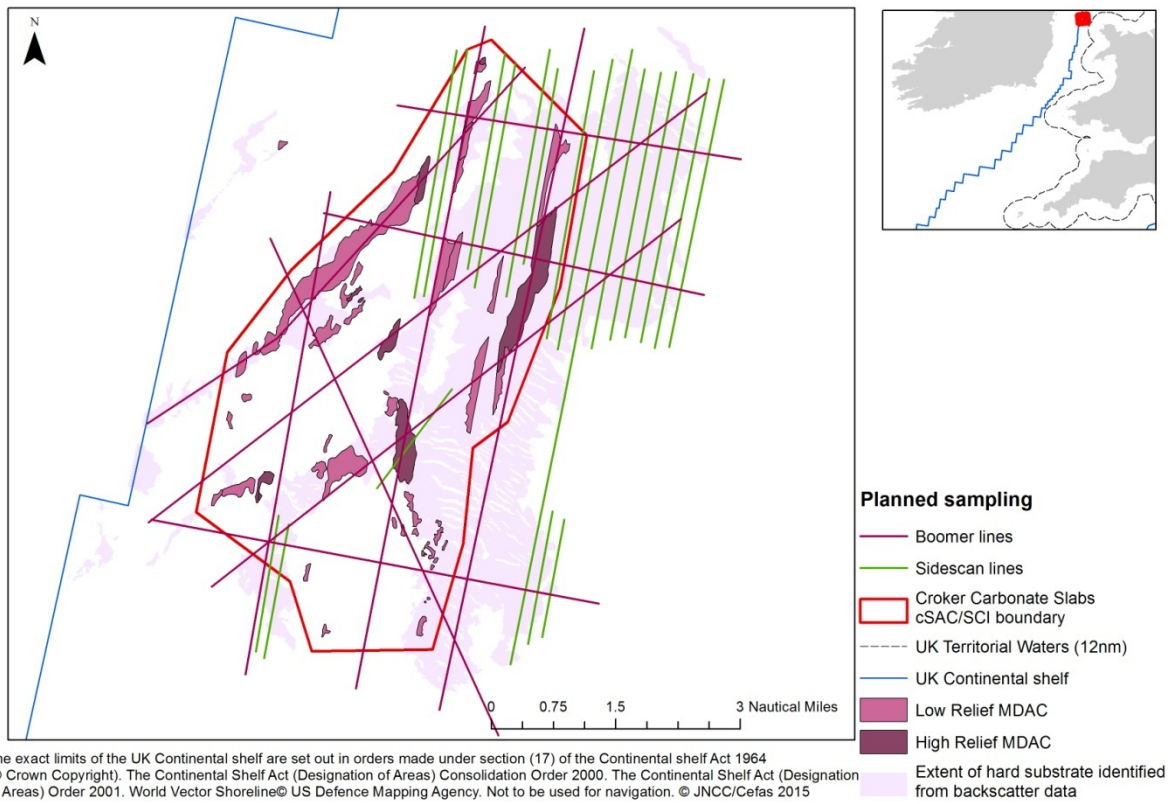
Dan Wood – Cefas – Shift lead (**C1**)
James Cook – Cefas – MIST (**D4**)
Louise Brown – Cefas – GIS/data, acoustic processor (**D5**)
Paul McIlwaine – Cefas – Benthic ecologist (**C2**)
Ana Jesus – JNCC – Monitoring lead (**C3**)
James Albrecht – JNCC – Data management, GIS & MMO (**D2**)

Highlighted staff members will require inductions upon mobilisation

DURATION: 24th October – 6th November, 2015 (14days)

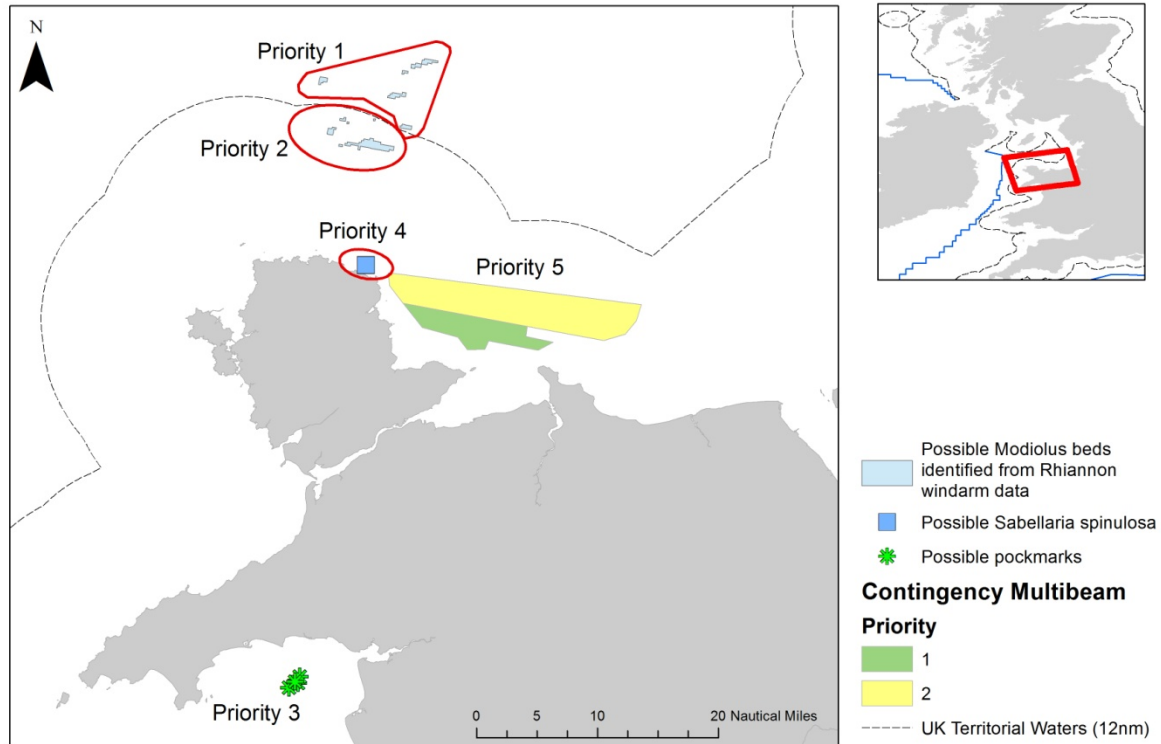
LOCATION

Primary site: Corker carbonate slabs (53 27.9N 5 13.2W)



Contingency:

- Priority 1 – Modiolus beds (53 39.72N 4 20.1W)
- Priority 2 – Modiolus beds (53 35.58N 4 22.38W)
- Priority 3 – Pockmarks (52 50.82N 4 16.560W)
- Priority 4 – *Sabellaria spinulosa* (53 25.92N 4 18.660W)
- Priority 5 – Multibeam off Anglesey (53 24.36N 4 4.2W)



The exact limits of the UK Continental shelf are set out in orders made under section (17) of the Continental shelf Act 1964 (© Crown Copyright), The Continental Shelf Act (Designation of Areas) Consolidation Order 2000, The Continental Shelf Act (Designation of Areas) Order 2001, World Vector Shoreline© US Defence Mapping Agency. Not to be used for navigation. Bathymetry Crown copyright, 2012. © JNCC/Cefas 2015

AIMS:

Priority

The aim of the CEND23/15 survey is to contribute to the development of a monitoring time-series for Croker Carbonate Slabs SCI from which the rate and direction of change in the condition of submarine structures made by leaking gases can be inferred in the long term.

Contingency

Priority 1: Establish the presence and extent of potential *Modiolus* beds, beyond 12nm, identified in sidescan data collected as part of the Rhiannon wind farm proposal. Collect groundtruthing information

Priority 2: Establish the presence and extent of potential *Modiolus* beds, beyond 12nm, identified in sidescan data collected as part of the Rhiannon wind farm proposal. Collect groundtruthing information.

Priority 3: Investigate possible pockmarks identified from multibeam and sidescan sonar data with drop frame transects and benthic sampling

Priority 4: Establish the presence and extent of *Sabellaria spinulosa* off North. Collect sidescan, multibeam and groundtruthing information

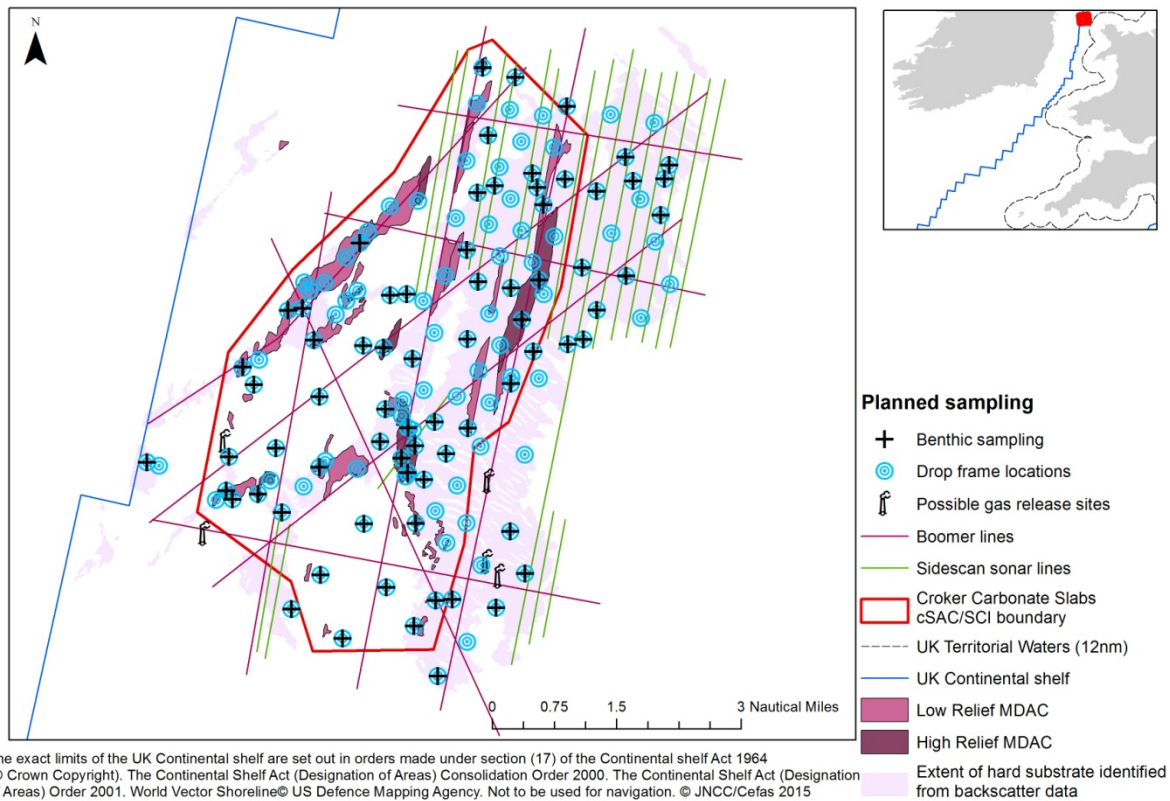
Priority 5: Undertake multibeam blocks to the east of Anglesey

PLAN:

The cruise will leave Swansea Port around 13:00 on the 24th October and will return to Swansea on the 6th November. Currently transport and mobilisation of kit at the vessel is arranged. Both Chris Jenkins and Suzanne Ware will arrive at the vessel on the 22nd October (evening of) but will not require dinner. The boomer hire has been arranged through an external agency and will be arriving the morning of the 23rd (TBC). Scientific crew will be arriving the afternoon of the 23rd and will require dinner on board.

The aim of the primary Croker site is to explore the presence and extent of methane derived authogenic carbonate (MDAC). This will require a multidisciplinary approach to operations. Primary objectives will be achieved using acoustic techniques (MBES, sidescan sonar and boomer) and ground truthing (Hamon Grab, Niskin bottles, drop camera and rock dredge). A rough time estimate of time commitment to each can be found in the table below along with the rough planned locations in the figure below that.

Technique	No. of lines / hours	Estimated duration
Boomer	10 lines/ 65nm	39hrs
Sidescan	20 line/60nm	58hrs
Groundtruthing	134 drop frame 72 planned benthic samples – some additional opportunistic may also be collected.	135.5hrs
Investigate suspected gas discharges		6 hrs
Contingency		48 hrs
Total		286.5 hours



Some contingency areas have been identified in case of early completion or being weathered off the primary site. These will comprise acoustic surveys, with some groundtruthing.

GEAR:

Multibeam echosounder
 Sidescan sonar
 Boomer – subsurface tow
 EK60
 Hamon Grab
 Day Grab
 Shipek
 Rock dredge
 Niskin bottles
 Drop camera
 METS Methane sensor

Chris Jenkins
 Scientist In Charge
 19.10.15

INITIALLED:

DISTRIBUTION: