

## Clean Seas Environmental Monitoring Programme (CSEMP), Welsh coast and Irish Sea

**RV ENDEAVOUR; C END 23 - 2016**

**SIC: Manuel Nicolaus**

**Sail:** 22<sup>nd</sup> October at ~8:30 from Swansea

**Dock:** 27<sup>th</sup> October in the evening in Liverpool

**LOCATION:** Irish Sea.

Name	Berth	Name	Berth
Manuel Nicolaus	SIC cabin	Lee Warford	Main Sci 6
Freya Goodsir	Upper Sci 1	Sara Stones	Main Sci 7
John Bignell	Upper Sci 2	Tom Hill	Main Sci 8
Michelle Pond	Main Sci 1	Craig Stenton	Lower Sci 2
Nathan Edmonds	Main Sci 2	Derry Gibson	Lower Sci 3
Scott Davis	Main Sci 3	Fiona McNie	Lower Sci 4
Paul Nelson	Main Sci 4	Student	Lower Sci 5
Matt Green	Main Sci 5		

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### Objectives and aims

The information generated during this survey will be used to meet UK's obligations for reporting of contaminant, eutrophication and marine litter data to MERMAN and the ICES database and for subsequent assessments for OSPAR and Good Environmental Status (GES descriptors 1, 4, 5, 8, 9 & 10) under the Marine Strategy Framework Directive (MSFD). After discussions with EA and NRW staff a coordinated approach is being taken to help deliver additional EQSD requirements for the EA and NRW.

### Specific aims:

1. To collect samples of demersal fish for chemical analysis from the Irish Sea, and Welsh Coast in support of the Clean Seas Environmental Monitoring Programme (CSEMP) (MSFD Descriptor 8 & 9). **Annex 1 and 2**
2. To collect fish samples at CSEMP sites for fish disease biochemical markers (e.g. EROD and bile metabolites analysis) (MSFD Descriptor 8). **Annex 2**
3. To sample representative CSEMP stations using day grab, for polycyclic aromatic hydrocarbons (PAHs), trace metal contaminants, organic contaminants (PCBs, PBDEs and HBCD), sediment particle size analysis (PSA), benthic fauna and marine litter (MSFD Descriptor 1, 4, 8 and 10). **Annex 1 and 2**

4. To conduct marine litter surveys (MSFD Descriptor 10) by collecting benthic litter information from the trawls and also collecting sediment samples for litter analysis.
5. To conduct passive sampler transects to analyse samples for performance reference compounds (PRCs), PAHs, PCBs, OCPs and PBDEs in the water column (MSFD D8) using the Ferrybox water sampling system.
6. To conduct marine mammal observations.

## **Overview**

### **21st October**

Scientific staff board ship

Inductions at 15:30 for Scott Davies, Lee Warford, Tom Hill, Craig Stenton, Derry Gibson and Student

### **22<sup>nd</sup> October**

Leaving Swansea with the morning tide around 8:30 and fishing CSEMP 616 Camarthen Bay (Annex 2). Then moving on to South Cardigan Bay (CSEMP 654) (Annex 3).

### **23<sup>rd</sup> October**

Fishing South Cardigan Bay (CSEMP 654) (Annex 3) before moving on to complete two spatial and one temporal CSEMP 655 sediment station. Then fishing the CSEMP 649 North Cardigan fishing station and complete the spatial CSEMP 655 sediment station. Stop passive Sample 2 when passing Anglesey.

### **24<sup>th</sup> October**

Over daytime fishing Red Wharf Bay (CSEMP776) and Liverpool Bay Trend. Then in the evening/night collecting sediment samples at CSEMP 715 temporal and spatial sediment stations (Annex 4).

### **25<sup>th</sup> October**

Fishing Liverpool Bay (CSEMP 715) and Burbo Bight CSEMP 706).

### **26<sup>th</sup> October**

Fishing Morecambe Bay (CSEMP 796) and SE Isle of Man (805). Then collecting sediment samples before moving on to St Bees Head (Annex 4).

### **27<sup>th</sup> October**

Fishing St Bees Head (CSEMP 769) in the morning and steaming to Liverpool for docking in the late evening.

### **28<sup>th</sup> October**

Cefas scientific staff are leaving the vessel

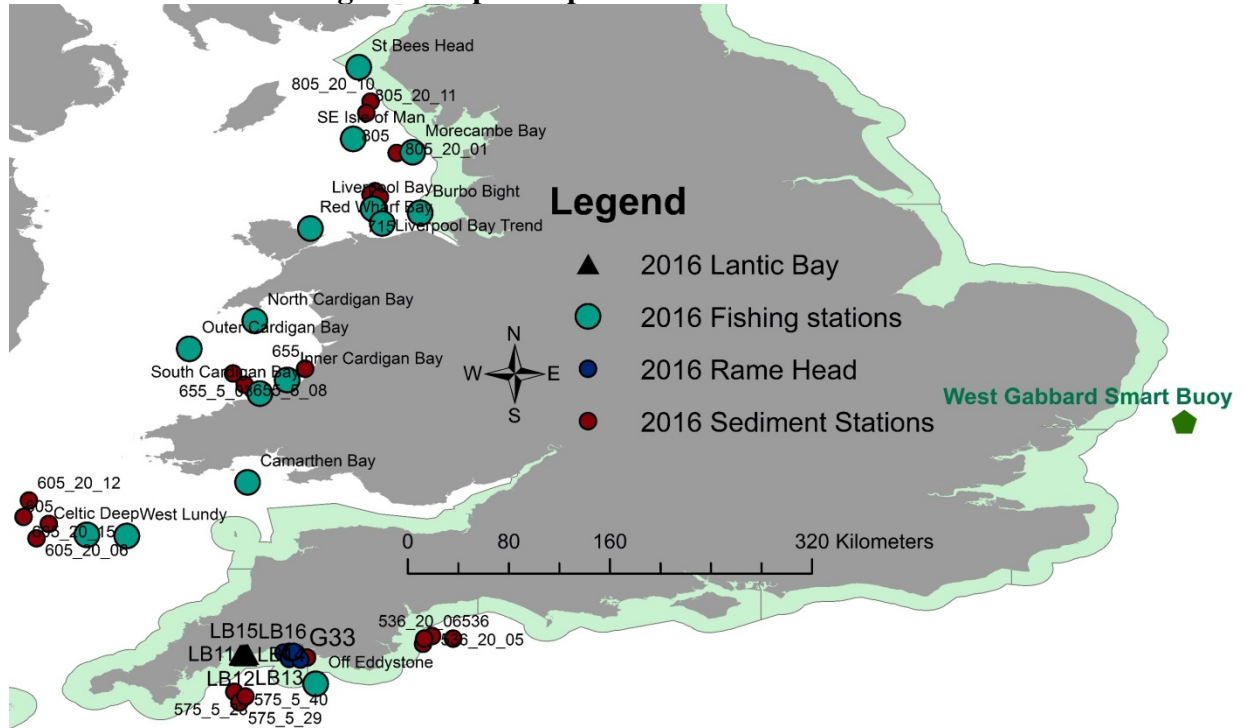
**Annex 1: A: CSEMP fishing stn positions**

CSEMP Number	Location	Mid tow Lat. Long.
616	Camarthen Bay	51 32.82 N 04 35.13 W
649	North Cardigan Bay	52 42.44 N 04 32.29 W
654	South Cardigan Bay	52 10.90 N 04 29.87 W
656	Inner Cardigan Bay	52 18.00 N 04 16.35 W
665	Outer Cardigan Bay	52 23.76 N 04 53.72 W
706	Burbo Bight	53 28.24 N 03 20.47 W
715	Liverpool Bay	53 28.32 N 03 41.91 W
769	St Bees Head	54 30.71 N 03 47.63 W
776	Red Wharf Bay	53 22.46 N 04 12.84 W
796	Morecambe Bay	53 55.31 N 03 23.23 W
805	SE Isle of Man	54 03.36 N 03 52.47 W
Trend	Liverpool Bay Trend	53 23.76N 03 37.55 W

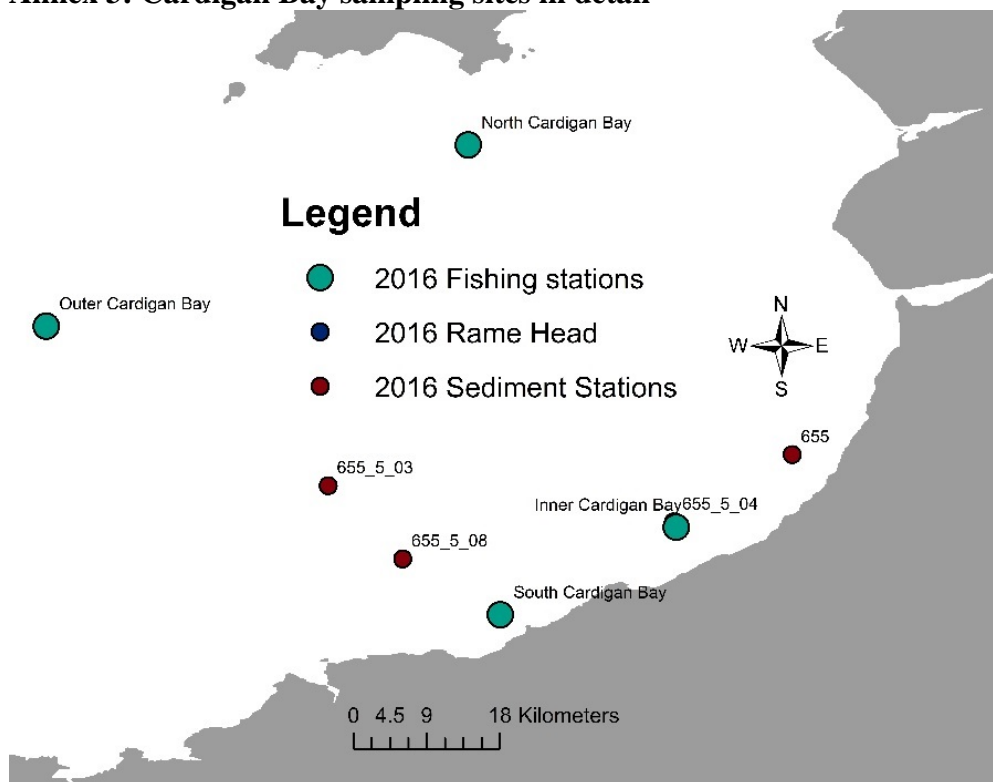
**B: CSEMP sediment stations**

Long	Lat	Station Name	Sampler type
-4.175	52.3583	655	Day grab
-			
4.6881471	52.3240776	655_5_03	Day grab
-			
4.3064775	52.2840004	655_5_04	Day grab
-			
4.6058278	52.2433014	655_5_08	Day grab
-3.6917	53.5	715	Day grab
-3.678236	53.6267967	715_5_11	Day grab
-			
3.7108047	53.6032677	715_5_12	Day grab
-			
3.6435056	53.5836868	715_5_15	Day grab
-3.52387	53.8992	805_20_01	Day grab
-3.70927	54.2669	805_20_10	Day grab (extra 10 sediment grabs for Chemistry)
-3.73993	54.1846	805_20_11	Day grab
-3.8333	54	805	Day grab

## Annex 2: CSEMP fishing and temporal/spatial sediment



## Annex 3: Cardigan Bay sampling sites in detail



## Annex 4: Liverpool Bay sampling sites in detail

