

DEPARTMENT FOR ENVIRONMENT, FOOD AND RURAL AFFAIRS.
CEFAS LOWESTOFT LABORATORY, LOWESTOFT, SUFFOLK,
ENGLAND.

PROGRAMME: RV ENDEAVOUR; CRUISE REPORT 11/10

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All staff from Weymouth Laboratory unless indicated otherwise.

DURATION: 21st June – 9th July 2010

Sail Hartlepool 21st June

Mid cruise change over Portland 1st July

Disembark Falmouth 9th July

LOCATION: North Sea and English Channel and Irish Sea.

AIMS:

1. To collect samples of fish for chemical analysis from the Irish Sea, North Sea and Eastern English Channel in support of the Clean Seas Environmental Monitoring Programme (CSEMP). **MSFD descriptor 8 and 9**
2. To collect fish at CSEMP sites for fish disease assessments and sampling of tissues for biochemical marker analysis (e.g. EROD and bile metabolites). **MSFD descriptor 8**

3. To sample representative CSEMP stations using grab, multicore and beam trawl for trace metal contaminants, sediment particle size analysis, PAHs and benthic fauna. Sampling included those stations marking up the North Sea benthic survey. **MSFD descriptor 8**
4. To conduct marine litter surveys in preparation for MSFD Descriptor 10: Properties and quantities of marine litter (including micro-plastics) do not cause harm to the coastal and marine environment. **MSFD descriptor 10**

Policy drivers

The data generated during this cruise will be used to meet obligations for reporting of contaminant data to MERMANN and the ICES database and subsequent assessment for Charting Progress and OSPAR. In addition, it fulfils Defra obligations to the OSPAR JAMP. It will also provide baseline data for defining descriptors (8, 9 and 10) of Good Environmental Status under the Marine Strategy Framework Directive (MSFD).

Overview

Cruise Endeavour 11/10 sailed Hartlepool on Sunday 21st June. RV *Endeavour* sailed from Hartlepool on the evening of 21st June and sailed to CSEMP stations off the Tees (CSEMP 294) and Farne Deep (CSEMP 293) to take samples under aims 1, 2, 3 and 4. RV *Endeavour* then proceeded to the Dogger Bank (CSEMP 286, 284, 283 & 287) and undertook sampling to cover aims 1-4. Further sampling took place at Off Humber (CSEMP 346), Wash (CSEMP 386), Humber (CSEMP 337), Indefatigable (CSEMP 387), Smiths Knoll (CSEMP 396, Trend) Out Gabbard (CSEMP 476), Rye Bay (CSEMP 486), New Haven (CSEMP 494) and Lyme Bay (CSEMP 534). On the 1st July RV *Endeavour* docked in Portland for one tide to change staff, removing samples to the Weymouth Laboratory and replenish liquid nitrogen.

RV *Endeavour* set sail at 19:00hrs (01/07/10) from Portland and proceeded west towards Lands End and onwards to Carmarthen Bay (CSEMP 616), Cardigan Bay (CSEMP 654 and 649) continuing to sample under aims 1, 2, 3 and 4. On arriving at Red Wharf Bay (CSEMP 776) fishing was suspended between 09:00 – 17:00hrs due to excessive wind speeds. On resumption RV *Endeavour* steamed to Liverpool Bay (CSEMP 715, Trend stn), Burbo Bight (CSEMP 705), Morecambe Bay CSEMP 796), SE Isle of Man (CSEMP 805) and Dundrum Bay (CSEMP 815). An additional site was added this year to allow collaboration with Irish colleagues working on a sister programme to

CSEMP. A site in outer Dublin Bay was sampled for fish disease, contaminant related biomarkers and chemistry. Following the completion of work in Dublin Bay the Endeavour steamed south, picking up a benthic station in the Celtic Deep (CSEMP 606) and a fishing station at Eddystone lighthouse. After completing the sampling the RV *Endeavour* proceeded to berth in Falmouth on the morning of the 9th July to demob.

A list of CSEMP stations for the sampling of fish is given in **Appendix 1** and **Appendix 2** below.

Additional Information

APPENDIX 1: CSEMP fishing stations (***Chem**: fish for chemical analysis, **BioEff**: Liver and bile samples for biological effects, dab unless otherwise stated, **Histo**: disease assessment, dab unless otherwise stated)

CSEMP Number	Location	Mid tow Lat. Long.	Samples collected*
Using old NMMP numbering			
243	Farne	55 29.71 N 01 07.59 W	Chem; Histo (whiting)
283	North East Dogger	55 18.05 N 02 53.82 E	Chem; BioEff; Histo
284	North Dogger	55 04.08 N 02 05.40 E	Chem; BioEff; Histo
286	West Dogger	54 46.76 N 01 17.69 E	Chem; BioEff; Histo
287	Central Dogger	54 30.00 N 02 42.53 E	Chem; BioEff; Histo
294	Tees Bay	54 45.25 N 01 08.31 W	Chem; BioEff; Histo
346	Off Humber	54 03.92 N 01 47.46 E	Chem; BioEff
377	Humber	53 19.37 N 00 25.47 E	Chem; BioEff (flounder)
378	Indefatigable Bank	53 33.40 N 02 04.92 E	Chem; BioEff; Histo
475	Outer Gabbard	52 01.86 N 02 06.57 E	Chem; BioEff; Histo
486	Rye Bay	50 46.74 N 00 46.83 E	Chem; BioEff; Histo
New	Off Newhaven	50 45.59 N 00 00.00 E	Chem; BioEff; Histo
New	Lyme Bay	50 36.86 N 02 55.82 W	Chem; BioEff; Histo
New	Off Eddystone	50 06.44 N 04 06.06 W	Chem; BioEff; Histo (20)
616	Camarthen Bay	51 32.82 N 04 35.13 W	Chem; BioEff; Histo
649	North Cardigan Bay	52 42.44 N 04 32.29 W	Chem
654	South Cardigan Bay	52 10.90 N 04 29.87 W	Chem
656	Inner Cardigan Bay	52 18.00 N 04 16.35 W	Chem
706	Burbo Bight	53 28.24 N 03 20.47 W	Chem; BioEff; Histo
715	Liverpool Bay	53 28.32 N 03 41.91 W	Chem; BioEff; Histo
776	Red Wharf Bay	53 22.46 N 04 12.84 W	Chem; BioEff; Histo
796	Morecambe Bay	53 55.31 N 03 23.23 W	Chem; BioEff; Histo
805	SE Isle of Man	54 03.36 N 03 52.47 W	Chem; BioEff; Histo

815	Outer Dundrum Bay	54 04.81 N 05 37.29 W	Chem
Trend	Smith's Knoll Bank	52 46.48 N 02 17.25 E	Chem (plaice & dab)
Trend	Liverpool Bay	53 23.76 N 03 37.55 W	Chem (plaice, whiting & dab)

APPENDIX 2: Map of CSEMP stations

